DVP-NS355/NS501P/NS507P/NS525P/NS575P/NS585P

RMT-D165A/RMT-D165P/RMT-D166P

SERVICE MANUAL

Brazil Model
DVP-NS355
China Model
DVP-NS507P/NS525P/NS585P
Middle East Model
DVP-NS585P
US Model
DVP-NS501P

Canada Model
PX Model
Mexico Model
Latin Model
Brazil Model
Hong Kong Model
GA Model
Taiwan Model
Korea Model
Saudi Arabia Model
Middle East Model
India Model
Australia Model
China Model
Argentina Model
US Model
Iran Model
DVP-NS575P

Photo : DVP-NS575P
RMT-D165P

Notes: US and Canada model only

SPECIFICATIONS

System
Laser: Semiconductor laser
Signal format system: NTSC

Audio characteristics
Frequency response: DVD VIDEO (PCM 96 kHz): 2 Hz to 44 kHz (±1.0 dB)/ DVD VIDEO (PCM 48 kHz): 2 Hz to 22 kHz (±0.5 dB)/CD: 2 Hz to 20 kHz (±0.5 dB)
Signal-to-noise ratio (S/N ratio): 115 dB
Harmonic distortion: 0.003%
Dynamic range: DVD VIDEO: 103 dB/ CD: 99 dB
Wow and flutter: Less than detected value (±0.001% W PEAK)

Outputs
(Jack name: Jack type/Output level/ Load impedance)
LINE OUT (AUDIO): Phono jack/ 2 Vrms/ 10 kilohms
DIGITAL OUT (COAXIAL): Phono jack/ 0.5 Vp-p/75 ohms

COMPONENT VIDEO OUT (Y, P_B, P_R): Phono jack/Y: 1.0 Vp-p/ P_B, P_R: 0.65 Vp-p/75 ohms
LINE OUT (VIDEO): Phono jack/ 1.0 Vp-p 75 ohms
S VIDEO OUT: 4-pin mini DIN/Y: 1.0 Vp-p, C: 0.286 Vp-p/75 ohms

General
Power requirements:
120 V AC, 60 Hz
110-240 V AC, 50/60 Hz
See page 5 for further information

Power consumption: 11 W
Dimensions (approx.): 430 × 43 × 237.7 mm (17 × 2 $^{11}/_{16}$ × 9 $^{1}/_{2}$ in.) (width/height/depth) incl. projecting parts
Mass (approx.): 1.95 kg (4 $^{1}/_{3}$ lb)
Operating temperature: 5°C to 35°C (41°F to 95°F)
Operating humidity: 25% to 80%

Supplied accessories
See page 17

Specifications and design are subject to change without notice.

ENERGY STAR® is a U.S. registered mark.
As an ENERGY STAR® Partner, Sony Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

DVD VIDEO
COMPACT disc DIGITAL VIDEO

CD/DVD PLAYER

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion.
   Recommend the replacement of any such line cord to the customer.
6. Check the B+ voltage to see it is at the values specified.
7. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

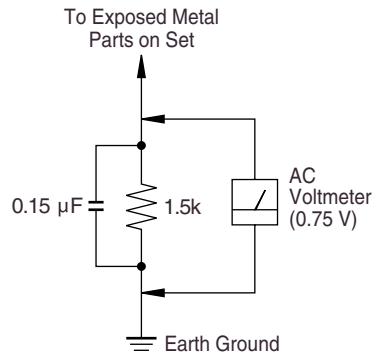

Fig.A. Using an Acvoltmeter to check AC leakage.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 25 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

CAUTION:
The use of optical instrument with this product will increase eye hazard.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

LEAKAGE TEST
The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA TW-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC volmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

Unleaded solder
Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK
Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C highter than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

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SERVICE NOTE

1. DISC REMOVAL PROCEDURE (at POWER OFF)

1) Open dust cover to access to a hole insert a tapering driver into the aperture of the unit bottom, and move the lever of chuck can in the direction of the arrow A. (See Fig. 1)
2) Draw out the tray in the direction of the arrow B, and remove a disc. (See Fig. 1)

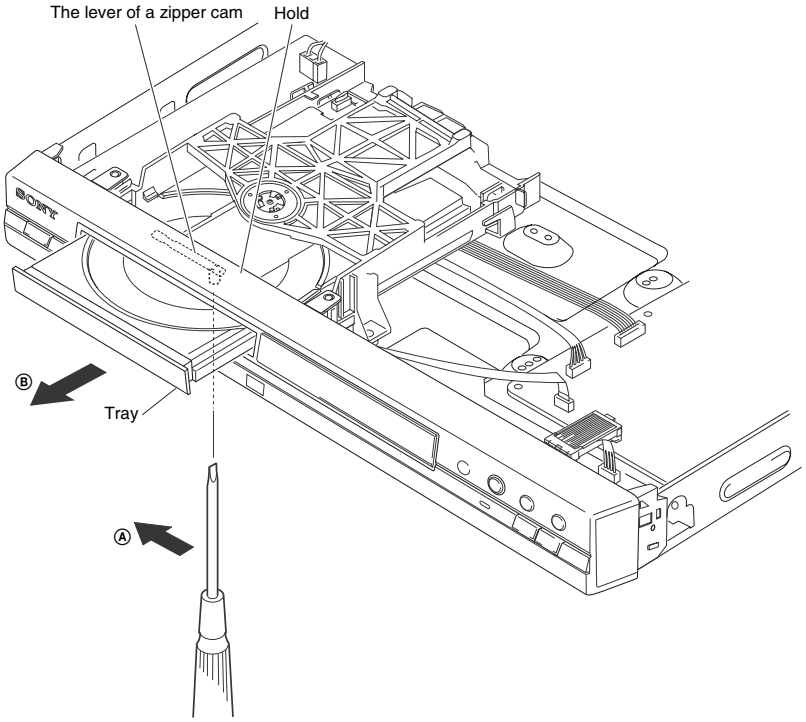


Fig. 1.

2. Caution Point on the PWB IF-112

CAUTION
When handling IF-112 PWB avoid contact with the sharp metal edge on the top side of Vacuum Fluorescent Display (ND401).

SECTION 1 GENERAL

This section is extracted from instruction manual. 3-088-492-12

Precautions

- The power requirements and power consumption of this player are indicated on the back of the player. Check that the player's operating voltage is identical with your local power supply.

Power requirements and power consumption →

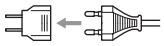
On safety
- To prevent fire or shock hazard, do not place objects filled with liquids, such as vases, on the apparatus.
- Should any solid object or liquid fall into the cabinet, unplug the player and have it checked by qualified personnel before operating it any further.

On power sources
- The player is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the player itself has been turned off.
- If you are not going to use the player for a long time, be sure to disconnect the player from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- Should the AC power cord need to be changed, have it done at a qualified service shop only.

On placement
- Place the player in a location with adequate ventilation to prevent heat build-up in the player.
- Do not place the player on a soft surface such as a rug that might block the ventilation holes.
- Do not place the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.
- Do not install the player in an inclined position. It is designed to be operated in a horizontal position only.
- Keep the player away from equipment with strong magnets, such as microwave ovens, or large loudspeakers.
- Do not place heavy objects on the player.

For the model supplied with the AC plug adaptor

If the AC plug of your unit does not fit into the wall autlet, attach the supplied AC plug adaptor.



On operation
- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the player. Should this occur, the player may not operate properly. In this case, remove the disc and leave the player turned on for about half an hour until the moisture evaporates.
- When you move the player, take out any discs. If you don't, the disc may be damaged.

On adjusting volume

Do not turn up the volume while listening to a section with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level section is played.

On cleaning

Clean the cabinet, panel, and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On cleaning discs

Do not use a commercially available cleaning disc. It may cause a malfunction.

IMPORTANT NOTICE

Caution: This player is capable of holding a still video image or on-screen display image on your television screen indefinitely. If you leave the still video image or on-screen display image displayed on your TV for an extended period of time you risk permanent damage to your television screen. Plasma display panel televisions and projection televisions are susceptible to this.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

About this Manual

- Instructions in this manual describe the controls on the remote. You can also use the controls on the player if they have the same or similar names as those on the remote.
- "DVD" may be used as a general term for DVD VIDEOs, DVD+RWs/DVD+Rs, and DVD-RWs/DVD-Rs.
- The meaning of the icons used in this manual is described below:

Icon	Meaning
DVD-V	Functions available for DVD VIDEOs and DVD+RWs/ DVD+Rs or DVD-RWs/ DVD-Rs in video mode
DVD-RW	Functions available for DVD-RWs in VR (Video Recording) mode
VCD	Functions available for VIDEO CDs, Super VCDs, or CD-Rs/ CD-RWs in video CD format or Super VCD format
DATA CD	Functions available for DATA CDs (CD-ROMs/CD-Rs/CD-RWs containing MP3* audio tracks and JPEG image files)
CD	Functions available for music CDs or CD-Rs/CD-RWs in music CD format

* MP3 (MPEG 1 Audio Layer 3) is a standard format defined by ISO (International Standard Organization) /MPEG which compresses audio data.

This Player Can Play the Following Discs

Format of discs	
DVD VIDEO (page 74)	DVD VIDEO
DVD-RW (page 74)	DVD RW
VIDEO CD	COMPACT disc DIGITAL VIDEO
Music CD	COMPACT disc DIGITAL AUDIO

"DVD VIDEO" and "DVD-RW" are trademarks.

Notes about CDs

The player can play the following discs: CD-ROMs/CD-Rs/CD-RWs recorded in the following formats:
– music CD format
– video CD format
– MP3 audio tracks and JPEG image files of format conforming to ISO9660* Level 1/ Level 2, or its extended format, Joliet
– KODAK Picture CD format
- A logical format of files and folders on CD-ROMs, defined by ISO (International Organization for Standardization).

Region code

Your player has a region code printed on the back of the unit and only will play DVD VIDEO discs (playback only) labeled with identical region codes. This system is used to protect copyrights.

DVD VIDEOs labeled (ALL) will also play on this player.

If you try to play any other DVD VIDEO, the message "Playback prohibited by area limitations." will appear on the TV screen. Depending on the DVD VIDEO, no region code indication may be labeled even though playing the DVD VIDEO is prohibited by area restrictions.

Example of discs that the player cannot play

The player cannot play the following discs:
- CD-ROMs (including PHOTO CDs)/CD-Rs/CD-RWs other than those recorded in the formats listed on the previous page.
- Data part of CD-Extras
- DVD-ROMs
- DVD Audio discs
- HD layer on Super Audio CDs

Also, the player cannot play the following discs:
- A DVD VIDEO with a different region code.
- A disc recorded in a color system other than NTSC, such as PAL or SECAM (this player conforms to the NTSC color system).
- A disc that has a non-standard shape (e.g., card, heart).
- A disc with paper or stickers on it.
- A disc that has the adhesive of cellophane tape or a sticker still left on it.

Notes

- **Notes about DVD+RWs/DVD+Rs, DVD-RWs/ DVD-Rs or CD-Rs/CD-RWs**
  Some DVD+RWs/DVD+Rs, DVD-RWs/DVD-Rs or CD-Rs/CD-RWs cannot be played on this player due to the recording quality or physical condition of the disc, or the characteristics of the recording device and authoring software.
  The disc will not play if it has not been correctly finalized. For more information, see the operating instructions for the recording device. Note that some playback functions may not work with some DVD+RWs/DVD+Rs, even if they have been correctly finalized. In this case, view the disc by normal playback. Also some DATA CDs created in Packet Write format cannot be played.
- **Music discs encoded with copyright protection technologies**
  This product is designed to playback discs that conform to the Compact Disc (CD) standard. Recently, various music discs encoded with copyright protection technologies are marketed by some record companies. Please be aware that among those discs, there are some that do not conform to the CD standard and may not be playable by this product.

Note on playback operations of DVDs and VIDEO CDs

Some playback operations of DVDs and VIDEO CDs may be intentionally set by software producers. Since this player plays DVDs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available. Also, refer to the instructions supplied with the DVDs or VIDEO CDs.

Copyrights

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

Notes about the Discs

- To keep the disc clean, handle the disc by its edge. Do not touch the surface.

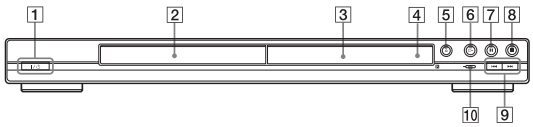
- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight as the temperature may rise considerably inside the car.
- After playing, store the disc in its case.
- Clean the disc with a cleaning cloth. Wipe the disc from the center out.

- Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for vinyl LPs.

Index to Parts and Controls

For more information, refer to the pages indicated in parentheses.

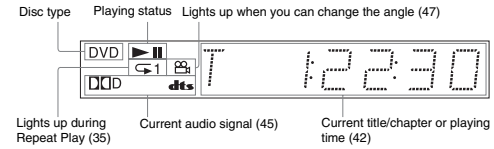
Front panel



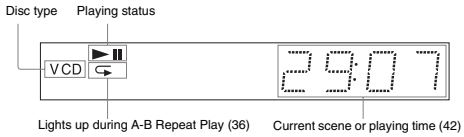
1 I/⏻ (on/standby) button (27)
2 Disc tray (27)
3 Front panel display (11)
4 (remote sensor) (17)
5 ⏏ (open/close) button (27)
6 ▻ (play) button (27, 37)
7 ❚❚ (pause) button (28)
8 ■ (stop) button (28)
9 I◄◄/►►I (previous/next) buttons (37)
10 PROGRESSIVE indicator (19)
Lights up when the player outputs progressive signals.

Front panel display

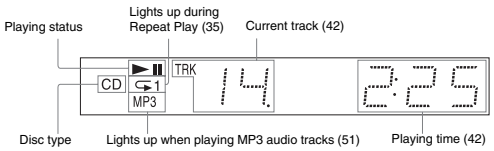
When playing back a DVD VIDEO/DVD-RW



When playing back a VIDEO CD with Playback Control (PBC) (31)

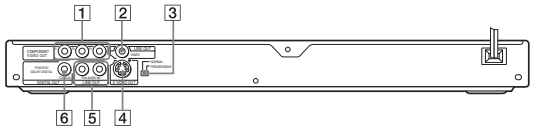


When playing back a CD, DATA CD (MP3 audio), or VIDEO CD (without PBC)



→*continued*

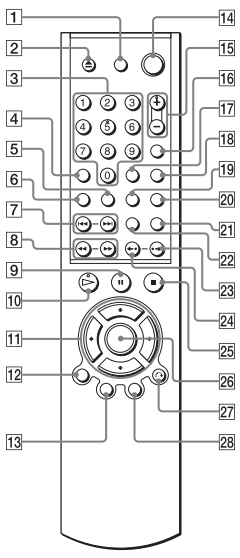
Rear panel



1 COMPONENT VIDEO OUT** jacks (18)
2 LINE OUT (VIDEO)* jack (18)
3 NORMAL/PROGRESSIVE switch (66)
4 S VIDEO OUT* jack (18)
5 LINE OUT L/R (AUDIO) jack (21, 22, 23)
6 DIGITAL OUT (COAXIAL) jack (22, 23, 24)

* Only set the "NORMAL/PROGRESSIVE" switch to "NORMAL" if you have connected the TV to these jacks (page 66)
** Set the "NORMAL/PROGRESSIVE" switch to "PROGRESSIVE" only if you have connected a progressive signal compatible TV to the player (page 66, 70)

Remote



1 TV I/⏻ (on/standby) button (62)
2 ⏏ OPEN/CLOSE button (27)
3 Number buttons (30)
The number 5 button has a tactile dot.*
4 CLEAR button (32)
5 SUBTITLE button (47)
6 AUDIO button (44)
7 ⏮/⏭ PREV/NEXT (previous/next) buttons (28)
8 ◄◄/◄◄/►►/►► SCAN/SLOW buttons (37)
9 ❚❚ PAUSE button (28)
10 ▷ PLAY button (27)
The ▷ button has a tactile dot.*
11 ←/↑/↓/→ buttons (30)
12 DISPLAY button (14)
13 TOP MENU button (30)
14 I/⏻ (on/standby) button (27)
15 VOL (volume) +/– buttons (62)
The + button has a tactile dot.*
16 TV/VIDEO button (62)
17 TIME/TEXT button (41)
18 PICTURE MODE button (48)
19 ANGLE button (47)
20 SUR (surround) button (45)
21 PICTURE NAVI (picture navigation) button (40, 53)
22 ZOOM button (28, 54)
23 •→/❚►► INSTANT ADVANCE/STEP button (28, 37)
24 ←•/◄❚❚ INSTANT REPLAY/STEP button (28, 37)
25 ■ STOP button (28)
26 ENTER button (28)
27 ↩ RETURN button (28)
28 MENU button (30)

* Use the tactile dot as a reference when operating the player.

Guide to the Control Menu Display

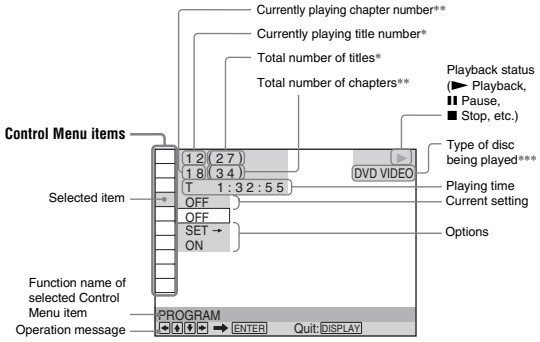
Use the Control Menu to select a function and to view related information. Press DISPLAY repeatedly to turn on or change the Control Menu display as follows.

Control Menu display 1
↓
Control Menu display 2 (DATA CD only)
↓
Control Menu display off

Control Menu Display

The Control Menu display 1 and 2 will show different items depending on the disc type. For details about each item, please refer to the pages in the parentheses.

Example: Control Menu display when playing a DVD VIDEO.



* Displays the scene number for VIDEO CDs (PBC is on), track number for VIDEO CDs/CDs, album number for DATA CDs.
** Displays the index number for VIDEO CDs/CDs, MP3 audio track or JPEG image file number for DATA CDs.
*** Displays Super VCD as "SVCD."

To turn off the display
Press DISPLAY repeatedly.

List of Control Menu Items

Item	Item Name, Function, Relevant Disc Type
	TITLE (page 38)/SCENE (page 38)/TRACK (page 38) Selects the title, scene, or track to be played. DVD-V DVD-RW VCD
	CHAPTER (page 38)/INDEX (page 38) Selects the chapter or index to be played. DVD-V DVD-RW VCD
	ALBUM (page 38) Selects the album to be played. DATA CD
	DATE Displays the recorded date, etc of the current JPEG image. DATA CD
	FILE (page 38) Selects the JPEG image file to be played. DATA CD
	ORIGINAL/PLAY LIST (page 30) Selects the type of titles (DVD-RW) to be played, the ORIGINAL one, or an edited PLAY LIST. DVD-RW
	TRACK (page 38) Selects the track to be played. CD DATA CD
	TIME/TEXT (page 38) Checks the elapsed time and the remaining playback time. Input the time code for picture and music searching. Displays the DVD/CD text or the DATA CD's track name. DVD-V DVD-RW VCD CD DATA CD
	PROGRAM (page 32) Selects the title, chapter, or track to play in the order you want. DVD-V VCD CD
	SHUFFLE (page 34) Plays the title, chapter, or track in random order. DVD-V VCD CD
	REPEAT (page 35) Plays the entire disc (all titles/all tracks/all albums) repeatedly or one title/chapter/track/album repeatedly. DVD-V DVD-RW VCD CD DATA CD
	A-B REPEAT (page 36) Specifies the parts you want to play repeatedly. DVD-V DVD-RW VCD CD
	SHARPNESS (page 49) Exaggerates the outline of the image to produce a sharper picture. DVD-V DVD-RW VCD DATA CD
	MODE(MP3,JPEG) (page 53) Selects the data type; MP3 audio track (AUDIO), JPEG image file (IMAGE) or both (AUTO) to be played when playing a DATA CD. DATA CD
	INTERVAL (page 56) Specifies the duration for which the slides are displayed on the screen. DATA CD
	EFFECT (page 57) Selects the effect to be used when viewing the slideshow. DATA CD
	PARENTAL CONTROL (page 58) Set to prohibit playback on this player. DVD-V VCD CD

➞continued

	SETUP (page 63) QUICK Setup (page 25) Use Quick Setup to choose the desired language of the on-screen display, the aspect ratio of the TV and the audio output signal. CUSTOM Setup In addition to the Quick Setup setting, you can adjust other various settings. RESET Returns the settings in "SETUP" to the default setting. DVD-V DVD-RW VCD CD DATA CD

Hint

The Control Menu icon indicator lights up in green → when you select any item except "OFF." ("PROGRAM," "SHUFFLE," "REPEAT," "A-B REPEAT," "SHARPNESS" only). The "ORIGINAL/PLAY LIST" indicator lights up in green when "PLAY LIST" is selected.

Hooking Up the Player

Follow Steps 1 to 6 to hook up and adjust the settings of the player.

Notes

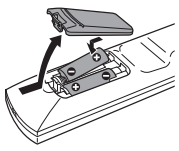
- Plug cords securely to prevent unwanted noise.
- Refer to the instructions supplied with the components to be connected.
- You cannot connect this player to a TV that does not have a video input jack.
- Be sure to disconnect the power cord of each component before connecting.

Step 1: Unpacking

Check that you have the following items:
- Audio/video cord (pinplug × 3 ⟷ pinplug × 3) (1)
- Remote commander (remote) (1)
- Size AA (R6) batteries (2)
- A plug adapter is included with some models

Step 2: Inserting Batteries into the Remote

You can control the player using the supplied remote. Insert two Size AA (R6) batteries by matching the ⊕ and ⊖ ends on the batteries to the markings inside the compartment. When using the remote, point it at the remote sensor R on the player.



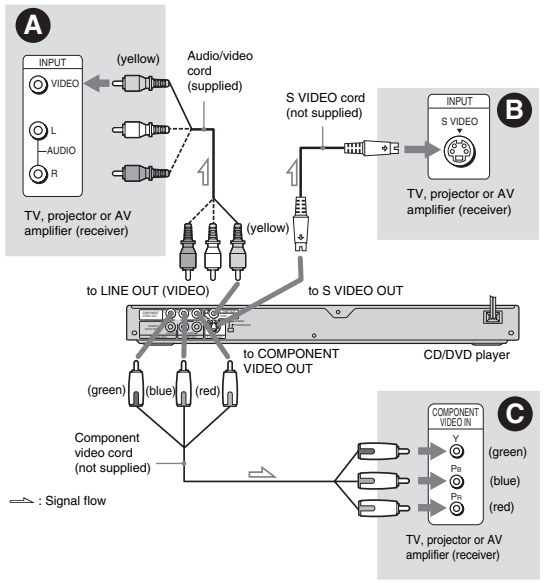
Notes

- Do not leave the remote in an extremely hot or humid place.
- Do not drop any foreign object into the remote casing, particularly when replacing the batteries.
- Do not expose the remote sensor to direct light from the sun or a lighting apparatus. Doing so may cause a malfunction.
- If you do not use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

➞continued

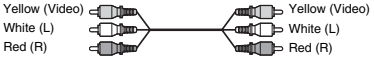
Step 3: Connecting the Video Cords

Connect this player to your TV monitor, projector, or AV amplifier (receiver) using a video cord. Select one of the patterns A through C. In order to view progressive signal (480p) pictures with a compatible TV, projector, or monitor, you must use connection C, according to the input jack on your TV monitor, projector, or AV amplifier (receiver).



A If you are connecting to a video input jack

Connect the yellow plug of the audio/video cord (supplied) to the yellow (video) jack. You will enjoy standard quality images.



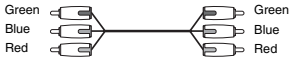
Use the red and white plugs to connect to the audio input jacks (page 21). (Do this if you are connecting to a TV only.)

Ⓑ If you are connecting to an S VIDEO input jack

Connect an S VIDEO cord (not supplied). You will enjoy high quality images.

Ⓒ If you are connecting to a monitor, projector, or AV amplifier (receiver) having component video input jacks (Y, P_B, P_R)

Connect the component via the COMPONENT VIDEO OUT jacks using a component video cord (not supplied) or three video cords (not supplied) of the same kind and length. You will enjoy accurate color reproduction and high quality images. If your TV accepts progressive (480p) format signals, you must use this connection and set NORMAL/PROGRESSIVE switch to PROGRESSIVE (page 66). The PROGRESSIVE indicator lights up when the player outputs progressive signals.

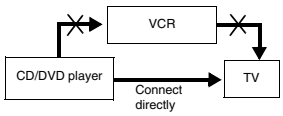


When connecting to a wide screen TV

Depending on the disc, the image may not fit your TV screen. If you want to change the aspect ratio, please refer to page 65.

Notes

- Connect the player directly to the TV. If you pass the player signals via the VCR, etc., you may not receive a clear image on the TV screen.



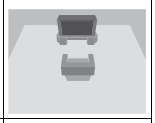
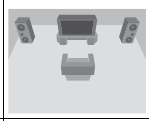
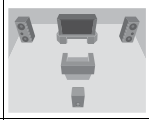
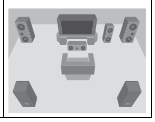
- Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In the case of 480 progressive scan picture problems, it is recommended that the user switch the connection to the 'standard definition' output. If there are questions regarding our TV set compatibility with this model 480p DVD player, please contact our customer service center.

Step 4: Connecting the Audio Cords

Refer to the chart below to select the connection that best suits your system. Be sure to also read the instructions for the components you wish to connect.

Select a connection

Select one of the following connections, Ⓐ through Ⓓ.

Components to be connected	Connection	Your setup (example)
TV	Ⓐ (page 21)	
Stereo amplifier (receiver) and two speakers or **MD deck/DAT deck**	Ⓑ (page 22)	
AV amplifier (receiver) having a Dolby* Surround (Pro Logic) decoder and 3 to 6 speakers	Ⓒ (page 23)	
AV amplifier (receiver) with digital input jacks having a Dolby Digital or DTS decoder and 6 speakers**	Ⓓ (page 24)	

Hint

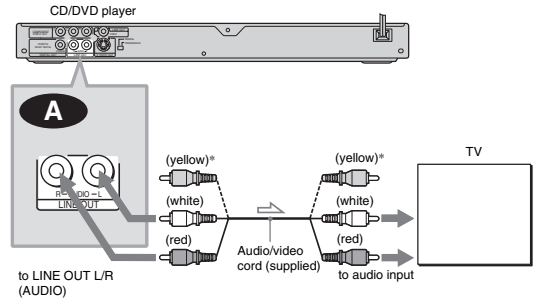
If you connect an AV amplifier (receiver) that conforms to the 96 kHz sampling frequency, use connection Ⓓ.

* Manufactured under license from Dolby Laboratories. "Dolby," "Pro Logic," and the double-D symbol are trademarks of Dolby Laboratories.

** "DTS" and "DTS Digital Out" are trademarks of Digital Theater Systems, Inc.

Ⓐ Connecting to your TV

This connection will use your TV's speakers for sound.



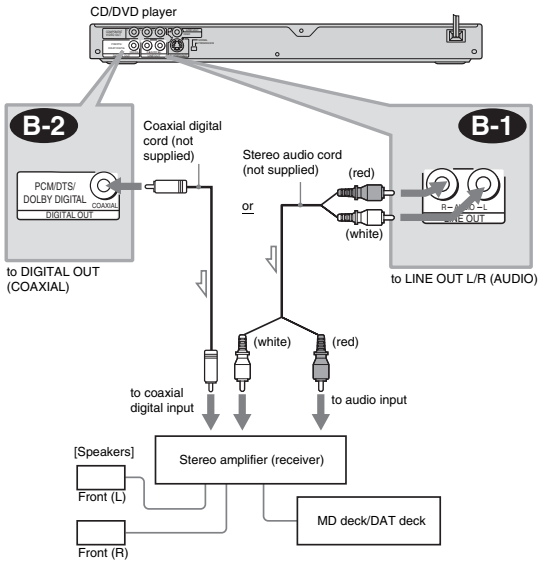
* The yellow plug is used for video signals (page 18).

Hint

When connecting to a monaural TV, use a stereo-mono conversion cord (not supplied). Connect the LINE OUT L/R (AUDIO) jacks to the TV's audio input jack.

Ⓑ Connecting to a stereo amplifier (receiver) and 2 speakers/Connecting to an MD deck or DAT deck

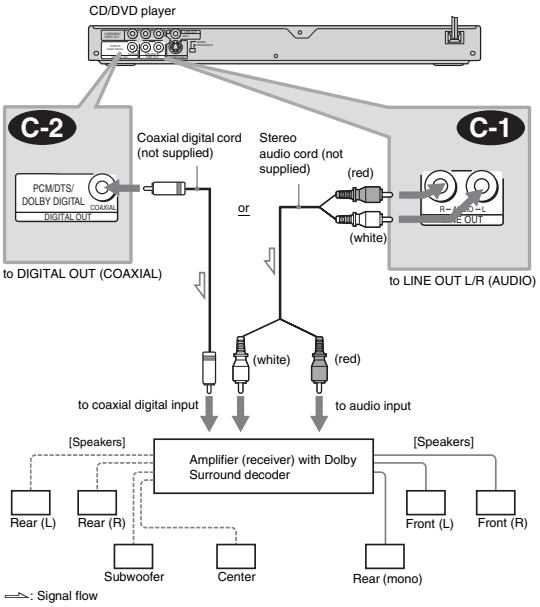
If the stereo amplifier (receiver) has audio input jacks L and R only, use B-1. If the amplifier (receiver) has a digital input jack, or when connecting to an MD deck or DAT deck, use B-2. In this case, you can also connect the player directly to the MD deck or DAT deck without using your stereo amplifier (receiver).



→continued

C Connecting to an AV amplifier (receiver) having a Dolby Surround (Pro Logic) decoder and 3 to 6 speakers

You can enjoy the Dolby Surround effects only when playing Dolby Surround audio or multi-channel audio (Dolby Digital) discs.
If your amplifier (receiver) has L and R audio input jacks only, use C-1. If your amplifier (receiver) has a digital input jack, use C-2.



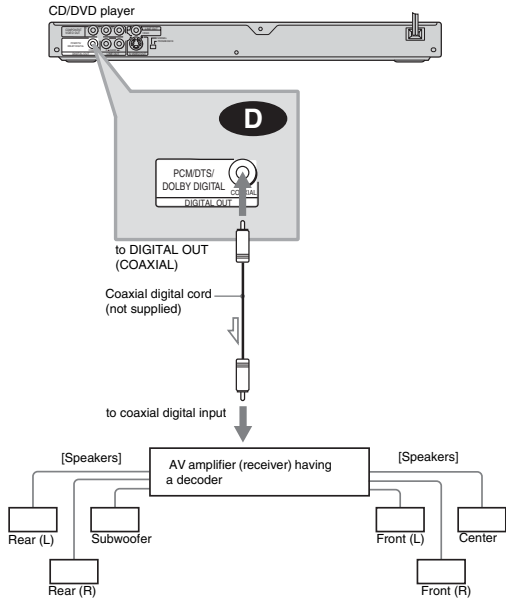
Note

When connecting 6 speakers, replace the monaural rear speaker with a center speaker, 2 rear speakers and a subwoofer.

continued

D Connecting to an AV amplifier (receiver) with a digital input jack having a Dolby Digital or DTS decoder and 6 speakers

This connection will allow you to use the Dolby Digital or DTS decoder function of your AV amplifier (receiver).



Hint

Use connection D when connecting to 7 or more speakers (6.1 ch or more).

Notes

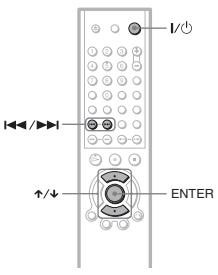
- After you have completed the connection, be sure to set "DOLBY DIGITAL" to "DOLBY DIGITAL" and "DTS" to "ON" in Quick Setup (page 25).
- In order to listen to DTS sound tracks, you must use this connection. DTS sound tracks are not output through the LINE OUT L/R (AUDIO) jacks, even if you set "DTS" to "ON" in Quick Setup (page 25).
- When you connect an amplifier (receiver) that conforms to the 96 kHz sampling frequency, set "48kHz/96kHz PCM" in "AUDIO SETUP" to "96kHz/24bit" (page 69).

Step 5: Connecting the Power Cord

Plug the player and TV power cords into an AC outlet.

Step 6: Quick Setup

Follow the steps below to make the minimum number of basic adjustments for using the player. To skip an adjustment, press ▶▶|. To return to the previous adjustment, press |◀◀.



1 Turn on the TV.

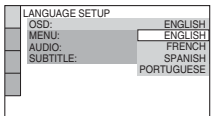
2 Press I/⏻.

3 Switch the input selector on your TV so that the signal from the player appears on the TV screen.

"Press [ENTER] to run QUICK SETUP" appears at the bottom of the screen. If this message does not appear, select "QUICK" under "SETUP" in the Control Menu to run Quick Setup (page 64).

4 Press ENTER without inserting a disc.

The Setup Display for selecting the language used in the on-screen display appears.

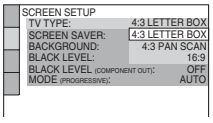


5 Press ↑/↓ to select a language.

The player uses the language selected here to display the menu and subtitles as well.

6 Press ENTER.

The Setup Display for selecting the aspect ratio of the TV to be connected appears.



7 Press ↑/↓ to select the setting that matches your TV type.

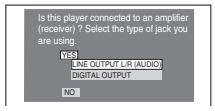
◆ If you have a 4:3 standard TV
- 4:3 LETTER BOX or 4:3 PAN SCAN (page 65)

◆ If you have a wide-screen TV or a 4:3 standard TV with a wide-screen mode
- 16:9 (page 65)

8 Press ENTER.

The Setup Display for selecting the type of jack used to connect your amplifier (receiver) appears.

continued


Is this player connected to an amplifier (receiver) ? Select the type of jack you are using.
YES
LINE OUTPUT L/R (AUDIO)
DIGITAL OUTPUT
NO

9 Press ↑/↓ to select the type of jack (if any) you are using to connect to an amplifier (receiver), then press ENTER.

Choose the item that matches the audio connection you selected on pages 21 to 24 (A through D).

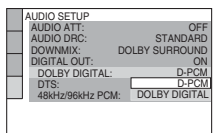
A
- If you connect just a TV and nothing else, select "NO." Quick Setup is finished and connections are complete.

B-1 C-1
- Select "LINE OUTPUT L/R (AUDIO)." Quick Setup is finished and connections are complete.

B-2 C-2 D
- Select "DIGITAL OUTPUT." The Setup Display for "DOLBY DIGITAL" appears.

10 Press ↑/↓ to select the type of Dolby Digital signal you wish to send to your amplifier (receiver).

Choose the signal that matches the audio connection you selected on pages 22 to 24 (B through D).

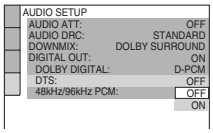


B-2 C-2
- D-PCM (page 69)

D
- DOLBY DIGITAL (only if the amplifier (receiver) has a Dolby Digital decoder) (page 69)

11 Press ENTER.

"DTS" is selected.



12 Press ↑/↓ to select whether or not you wish to send a DTS signal to your amplifier (receiver).

Choose the item that matches the audio connection you selected on pages 22 to 24 (B through D).

B-2 C-2
- OFF (page 69)

D
- ON (only if the amplifier (receiver) has a DTS decoder) (page 69)

13 Press ENTER.

Quick Setup is finished. All connections and setup operations are complete.

Enjoying the surround sound effects

To enjoy the surround sound effects of this player or your amplifier (receiver), set the following items as described below for the audio connection you selected on pages 22 to 24 (B through D). Each of these is the default setting and does not need to be adjusted when you first connect the player. Refer to page 63 for using the Setup Display.

Audio Connection (pages 21 to 24)

A
- No additional settings are needed.

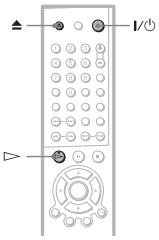
B-1 C-1
- Set "DOWNMIX" to "DOLBY SURROUND" (page 68)
- If the sound distorts even when the volume is turned down, set "AUDIO ATT" to "ON" (page 68)

B-2 C-2 D
- Set "DOWNMIX" to "DOLBY SURROUND" (page 68)
- Set "DIGITAL OUT" to "ON" (page 68)

Playing Discs

DVD-V DVD-RW VCD CD DATA CD

Depending on the DVD or VIDEO CD, some operations may be different or restricted. Refer to the operating instructions supplied with your disc.



1 Turn on your TV.

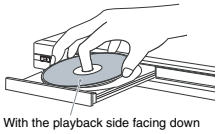
2 Press I/⏻.

The player turns on.

3 Switch the input selector on your TV so that the signal from the player appears on the TV screen.

◆ When using an amplifier (receiver)
Turn on the amplifier (receiver) and select the appropriate channel so that you can hear sound from the player.

4 Press ⏏ on the player, and place a disc on the disc tray.



With the playback side facing down

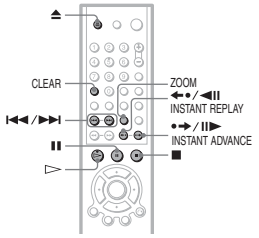
5 Press ▷.

The disc tray closes, and the player starts playback (continuous play). Adjust the volume on the TV or the amplifier (receiver).
Depending on the disc, a menu may appear on the TV screen. For DVD VIDEOs, see page 30. For VIDEO CDs, see page 31.

To turn off the player
Press I/⏻. The player enters standby mode.

Hint
You can have the player turn off automatically whenever you leave it in stop mode for more than 30 minutes. To turn on this function, set "AUTO POWER OFF" in "CUSTOM SETUP" to "ON" (page 67).

Additional operations



To	Operation
Stop	Press ■
Pause	Press II
Resume play after pause	Press II or ▷
Go to the next chapter, track, or scene in continuous play mode	Press ▶▶I
Go back to the previous chapter, track, or scene in continuous play mode	Press I◀◀
Stop play and remove the disc	Press ⏏
Replay the previous scene*	Press ←●/◀II INSTANT REPLAY during playback
Briefly fast forward the current scene**	Press ●→/II▶ INSTANT ADVANCE during playback
Magnify the image***	Press ZOOM repeatedly. Press CLEAR to cancel.

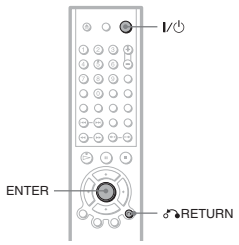
* For DVD VIDEOs and DVD-RWs/DVD-Rs only
** For DVD VIDEOs and DVD-RWs/DVD-Rs or DVD+RWs only
***For Video and JPEG pictures only (except BACKGROUND pictures). You can move the enlarged picture using ←/↑/↓/→. Depending upon the contents of the disc, the ZOOM function may be canceled automatically when the picture is moved.

Hints
- The Instant Replay function is useful when you want to review a scene or dialog that you missed.
- The Instant Advance function is useful when you want to pass over a scene that you don't want to watch.

Note
You may not be able to use the Instant Replay or Instant Advance function with some scenes.

Locking the disc tray (Child Lock)

You can lock the disc tray to prevent children from opening it.



When the player is in standby mode, press RETURN, ENTER, and then I/⏻ on the remote.
The player turns on and "LOCKED" appears on the front panel display.
The ⏏ button on the player or the remote does not work while the Child Lock is set.

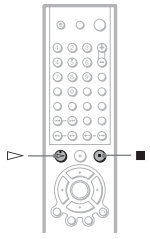
To unlock the disc tray
When the player is in standby mode, press RETURN, ENTER, and then I/⏻ again.

Note
Even if you select "RESET" under "SETUP" in the Control Menu (page 64), the disc tray remains locked.

Resuming Playback from the Point Where You Stopped the Disc

(Multi-disc Resume) DVD-V VCD

The player stores the point where you stopped the disc for up to 6 discs and resumes playback the next time you insert the same disc. When you store a resume playback point for the seventh disc, the resume playback point for the first disc is deleted.



1 While playing a disc, press ■ to stop playback.

"RESUME" appears on the front panel display.

2 Press ▷.

The player starts playback from the point where you stopped the disc in Step 1.

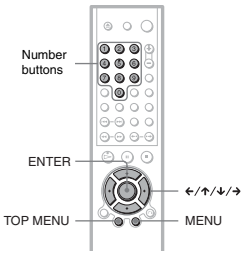
Hints
- To play from the beginning of the disc, press ■ twice, then press ▷.
- For DVD-RWs in VR mode, CDs, and DATA CDs, the player remembers the resume playback point for the current disc unless the disc tray is opened, the power cord is disconnected, or only for DATA CDs, the player enters standby mode.

Notes
- "MULTI-DISC RESUME" in "CUSTOM SETUP" must be set to "ON" (default) for this function to work (page 67).
- The resume playback point for the current disc is cleared when:
– you change the play mode.
– you change the settings on the Setup Display.
- This function may not work with some discs.
- Resume Play does not work during Shuffle Play and Program Play.
- If "MULTI-DISC RESUME" in "CUSTOM SETUP" is set to "ON" and you playback a recorded disc such as DVD-RW, the player may playback other recorded discs from the same resume point. To play from the beginning, press ■ twice and then press ▷.

Using the DVD's Menu

DVD-V

A DVD is divided into long sections of a picture or a music feature called "titles." When you play a DVD which contains several titles, you can select the title you want using the TOP MENU button.
When you play DVDs that allow you to select items such as the language for the subtitles and the language for the sound, select these items using the MENU button.



1 Press TOP MENU or MENU.

The disc's menu appears on the TV screen.
The contents of the menu vary from disc to disc.

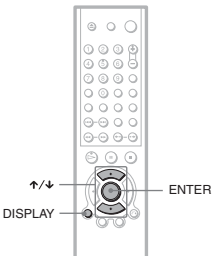
2 Press ←/↑/↓/→ or the number buttons to select the item you want to play or change.

If you press the number buttons, the following display appears.
Press the number buttons to select the item you want.

3 Press ENTER.

Selecting "ORIGINAL" or "PLAY LIST" on a DVD-RW Disc DVD-RW

Some DVD-RW discs in VR (Video Recording) mode have two types of titles for playback: originally recorded titles (ORIGINAL) and titles that can be created on recordable DVD players for editing (PLAY LIST). You can select the type of titles to be played.

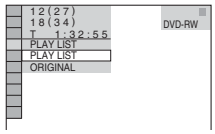


1 Press DISPLAY in stop mode.

The Control Menu appears.

2 Press ↑/↓ to select (ORIGINAL/PLAY LIST), then press ENTER.

The options for "ORIGINAL/PLAY LIST" appear.



3 Press ↑/↓ to select the setting.

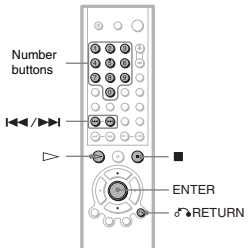
- PLAY LIST: plays the titles created from "ORIGINAL" for editing.
- ORIGINAL: plays the titles originally recorded.

4 Press ENTER.

Playing VIDEO CDs with PBC Functions (PBC Playback)

VCD

PBC (Playback Control) allows you to play VIDEO CDs interactively by following the menu on the TV screen.



1 Start playing a VIDEO CD with PBC functions.

The menu for your selection appears.

2 Select the item number you want by pressing the number buttons.

3 Press ENTER.

4 Follow the instructions in the menu for interactive operations.

Refer to the instructions supplied with the disc, as the operating procedure may differ depending on the VIDEO CD.

To return to the menu

Press RETURN.

→continued

Hint

To play without using PBC, press I◄◄ /►►I or the number buttons while the player is stopped to select a track, then press ▷ or ENTER.
"Play without PBC" appears on the TV screen and the player starts continuous play. You cannot play still pictures such as a menu.
To return to PBC playback, press ■ twice then press ▷.

Note

Depending on the VIDEO CD, "Press ENTER" in Step 3 may appear as "Press SELECT" in the instructions supplied with the disc. In this case, press ▷.

Various Play Mode Functions (Program Play, Shuffle Play, Repeat Play, A-B Repeat Play)

You can set the following play modes:

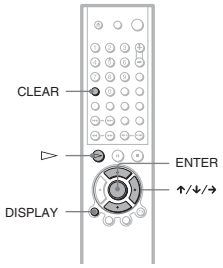
- Program Play (page 32)
- Shuffle Play (page 34)
- Repeat Play (page 35)
- A-B Repeat Play (page 36)

Note

The play mode is canceled when:
– you open the disc tray.
– the player enters standby mode by pressing I/⏻.

Creating your own program (Program Play) DVD-V VCD CD

You can play the contents of a disc in the order you want by arranging the order of the titles, chapters, or tracks on the disc to create your own program. You can program up to 99 titles, chapters, and tracks.

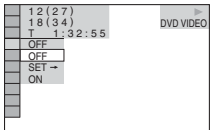


1 Press DISPLAY.

The Control Menu appears.

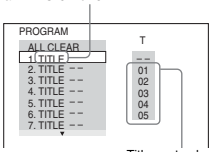
2 Press ↑/↓ to select (PROGRAM), then press ENTER.

The options for "PROGRAM" appear.



3 Press ↑/↓ to select "SET →," then press ENTER.

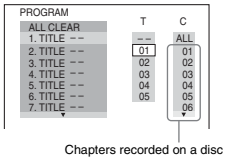
"TRACK" is displayed when you play a VIDEO CD or CD.



Titles or tracks recorded on a disc

4 Press →.

The cursor moves to the title or track row "T" (in this case, "01").

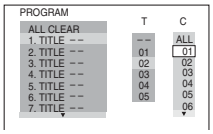


Chapters recorded on a disc

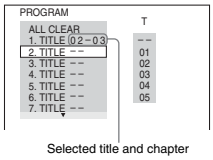
5 Select the title, chapter, or track you want to program.

◆ When playing a DVD VIDEO

For example, select chapter "03" of title "02."
Press ↑/↓ to select "02" under "T," then press ENTER.



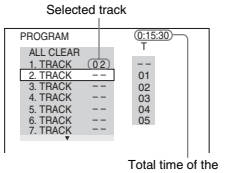
Next, press ↑/↓ to select "03" under "C," then press ENTER.



Selected title and chapter

◆ When playing a VIDEO CD or CD

For example, select track "02."
Press ↑/↓ to select "02" under "T," then press ENTER.



Total time of the programmed tracks

6 To program other titles, chapters, or tracks, repeat Steps 4 to 5.

The programmed titles, chapters, and tracks are displayed in the selected order.

7 Press ▷ to start Program Play.

Program Play begins.
When the program ends, you can restart the same program again by pressing ▷.

To return to normal play

Press CLEAR, or select "OFF" in Step 3. To play the same program again, select "ON" in Step 3 and press ENTER.

To change or cancel a program

1. Follow Steps 1 through 3 of "Creating your own program (Program Play)."
2. Select the program number of the title, chapter, or track you want to change or cancel using ↑/↓, and press →.
3. Follow Step 5 for new programming. To cancel a program, select "--" under "T," then press ENTER.

→continued

To cancel all of the titles, chapters, or tracks in the programmed order

1. Follow Steps 1 through 3 of "Creating your own program (Program Play)."
2. Press ↑ and select "ALL CLEAR."
3. Press ENTER.

Hint

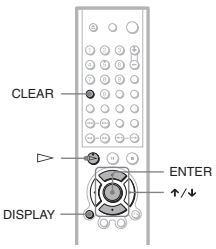
You can do Repeat Play or Shuffle Play of the programmed titles, chapters, or tracks. During Program Play, follow the Steps of "Repeat Play" (page 35) or "Shuffle Play" (page 34).

Note

You cannot use this function with VIDEO CDs and Super VCD with PBC playback.

Playing in random order (Shuffle Play) DVD-V VCD CD

You can have the player "shuffle" titles, chapters, or tracks. Subsequent "shuffling" may produce a different playing order.

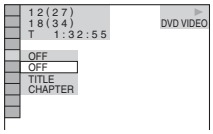


1 Press DISPLAY during playback.

The Control Menu appears.

2 Press ↑/↓ to select (SHUFFLE), then press ENTER.

The options for "SHUFFLE" appear.



3 Press ↑/↓ to select the item to be shuffled.

◆ When playing a DVD VIDEO

- TITLE
- CHAPTER

◆ When playing a VIDEO CD or CD

- TRACK

◆ When Program Play is activated

- ON: shuffles titles, chapters, or tracks selected in Program Play.

4 Press ENTER.

Shuffle Play starts.

To return to normal play

Press CLEAR, or select "OFF" in Step 3.

Hints

- You can set Shuffle Play while the player is stopped. After selecting the "SHUFFLE" option, press ▷. Shuffle Play starts.
- Up to 200 chapters in a disc can be played in random order when "CHAPTER" is selected.

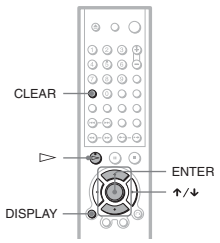
Note

You cannot use this function with VIDEO CDs and Super VCD with PBC playback.

Playing repeatedly (Repeat Play)

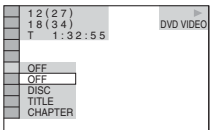
DVD-V DVD-RW VCD CD DATA CD

You can play all of the titles or tracks on a disc or a single title, chapter, or track repeatedly.
You can use a combination of Shuffle or Program Play modes.



1 Press DISPLAY during playback.
The Control Menu appears.

2 Press ↑/↓ to select (REPEAT), then press ENTER.
The options for "REPEAT" appear.



◆ **When playing a DVD VIDEO**
- DISC: repeats all of the titles.
- TITLE: repeats the current title on a disc.
- CHAPTER: repeats the current chapter.

◆ **When playing a DVD-RW**
- DISC: repeats all the titles of the selected type.
- TITLE: repeats the current title on a disc.
- CHAPTER: repeats the current chapter.

◆ **When playing a VIDEO CD or CD**
- DISC: repeats all of the tracks.
- TRACK: repeats the current track.

◆ **When playing a DATA CD (MP3 audio)**
- DISC: repeats all of the albums.
- ALBUM: repeats the current album.
- TRACK: repeats the current track.

◆ **When playing a DATA CD (JPEG image)**
- DISC: repeats all of the albums.
- ALBUM: repeats the current album.

◆ **When playing a DATA CD (MP3 audio and JPEG image)**
- DISC: repeats all of the albums.
- ALBUM: repeats the current album.
- TRACK: repeats the current track (MP3 audio).

◆ **When Program Play or Shuffle Play is activated**
- ON: repeats Program Play or Shuffle Play.

To return to normal play
Press CLEAR, or select "OFF" in Step 2.

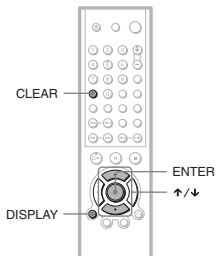
Hint
You can set Repeat Play while the player is stopped. After selecting the "REPEAT" option, press ▷. Repeat Play starts.

Notes
- You cannot use this function with VIDEO CDs and Super VCD with PBC playback.
- When playing a DATA CD which contains MP3 audio tracks and JPEG image files, and their playing time are not the same, the audio sound will not match the image file as it is repeated.

Repeating a specific portion (A-B Repeat Play)

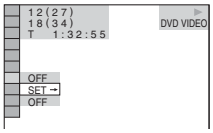
DVD-V DVD-RW VCD CD

You can play a specific portion of a title, chapter or track repeatedly. (This function is useful when you want to memorize lyrics, etc.)

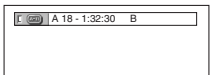


1 Press DISPLAY during playback.
The Control Menu appears.

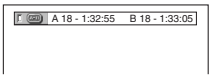
2 Press ↑/↓ to select (A-B REPEAT), then press ENTER.
The options for "A-B REPEAT" appear.



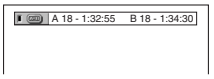
3 Press ↑/↓ to select "SET →," then press ENTER.
The "A-B REPEAT" setting bar appears.



4 During playback, when you find the starting point (point A) of the portion to be played repeatedly, press ENTER.
The starting point (point A) is set.



5 When you reach the ending point (point B), press ENTER again.
The set points are displayed and the player starts repeating this specific portion.

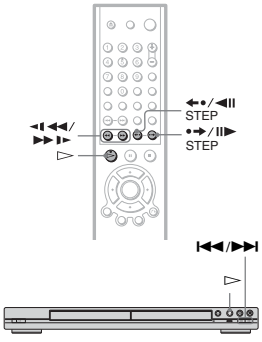


To return to normal play
Press CLEAR, or select "OFF" in Step 3.

Notes
- When you set A-B Repeat Play, the settings for Shuffle Play, Repeat Play, and Program Play are canceled.
- A-B Repeat Play does not work for titles containing still pictures on a DVD-RW in VR mode.
- A-B Repeat Play does not work across multiple titles on a DVD-RW in VR mode.

Searching for a Particular Point on a Disc (Search, Scan, Slow-motion Play, Freeze Frame)

You can quickly locate a particular point on a disc by monitoring the picture or playing back slowly.



Notes
- Depending on the DVD/VIDEO CD, you may not be able to do some of the operations described.
- For DATA CDs, you can search for a particular point only on an MP3 audio track.

Locating a point quickly using the PREV (previous)/NEXT (next) buttons (Search)

DVD-V DVD-RW VCD CD DATA CD

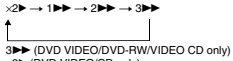
You can search for a particular point on a disc using I◄◄/►►I on the player.
During playback, press and hold ►►I to locate a point in the playback direction or press and hold I◄◄ to locate a point in the opposite direction. When you find the point you want, release the button to return to normal playback speed.

Locating a point quickly by playing a disc in fast forward or fast reverse (Scan)

DVD-V DVD-RW VCD CD DATA CD

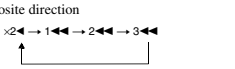
Press ◄▮ ◄◄ or ►► ▮► while playing a disc. When you find the point you want, press ▷ to return to normal speed. Each time you press ◄▮ ◄◄ or ►► ▮► during scan, the playback speed changes. With each press the indication changes as shown below. Actual speeds may differ with some discs.

Playback direction



3►► (DVD VIDEO/DVD-RW/VIDEO CD only)
×2► (DVD VIDEO/CD only)

Opposite direction



3◄◄ (DVD VIDEO/DVD-RW/VIDEO CD only)
×2◄ (DVD VIDEO only)

The "×2►"/ "×2◄" playback speed is about twice the normal speed.
The "3►►"/"3◄◄" playback speed is faster than "2►►"/"2◄◄" and the "2►►"/"2◄◄" playback speed is faster than "1►►"/"1◄◄."

Watching frame by frame (Slow-motion play)

DVD-V DVD-RW VCD

Press ◄▮ ◄◄ or ►► ▮► when the player is in pause mode. To return to the normal speed, press ▷.
Each time you press ◄▮ ◄◄ or ►► ▮► during Slow-motion play, the playback speed changes. Two speeds are available. With each press the indication changes as follows:

Playback direction
2 ▮► ←→ 1 ▮►

Opposite direction (DVD only)
2 ◄▮ ←→ 1 ◄▮

The "2 ▮►"/"2 ◄▮" playback speed is slower than "1 ▮►"/"1 ◄▮."

➡continued

Playing one frame at a time (Freeze Frame)

DVD-V DVD-RW VCD

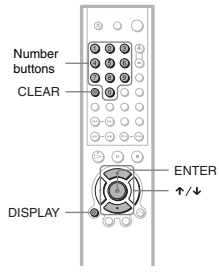
When the player is in the pause mode, press •→/II► STEP to go to the next frame. Press ←•/◄II STEP to go to the preceding frame (DVD only). To return to normal playback, press ▷.

Note
You cannot search for a still picture on a DVD-RW in VR mode.

Searching for a Title/ Chapter/Track/Scene, etc.

DVD-V DVD-RW VCD CD DATA CD

You can search a DVD by title or chapter, and you can search a VIDEO CD/CD/DATA CD by track, index, or scene. As titles and tracks are assigned unique numbers on the disc, you can select the desired one by entering its number. Or, you can search for a scene using the time code.



1 Press DISPLAY. (When playing a DATA CD with JPEG image files, press DISPLAY twice.)
The Control Menu appears.

2 Press ↑/↓ to select the search method.

◆ **When playing a DVD VIDEO/DVD-RW**
- TITLE
- CHAPTER
- TIME/TEXT

Select "TIME/TEXT" to search for a starting point by inputting the time code.

◆ When playing a VIDEO CD or Super VCD without PBC Playback

TRACK

INDEX

◆ When playing a VIDEO CD or Super VCD with PBC Playback

SCENE

INDEX

◆ When playing a CD

TRACK

◆ When playing a DATA CD (MP3 audio)

ALBUM

TRACK

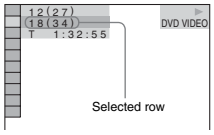
◆ When viewing a DATA CD (JPEG image)

ALBUM

FILE

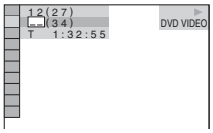
Example: when you select CHAPTER

"** (**)" is selected (** refers to a number). The number in parentheses indicates the total number of titles, chapters, tracks, indexes, scenes, albums or files.



3 Press ENTER.

"** (**)" changes to "-- (**)."



4 Press the number buttons to select the title, chapter, track, index, scene, etc., number you want to search.

If you make a mistake

Cancel the number by pressing CLEAR, then select another number.

5 Press ENTER.

The player starts playback from the selected number.

To search for a scene using the time code (DVD VIDEO/DVD-RW only)

1 In Step 2, select TIME/TEXT. "T **:**:**" (playing time of the current title) is selected.

2 Press ENTER. "T **:**:**" changes to "T --:--:--."

3 Input the time code using the number buttons, then press ENTER. For example, to find the scene at 2 hours, 10 minutes, and 20 seconds after the beginning, just enter "2:10:20."

Hints

- When the Control Menu display is turned off, you can search for a chapter (DVD VIDEO/DVD-RW) or track (CD) by pressing the number buttons and ENTER.
- You can display the first scene of titles, chapters, or tracks recorded on the disc on a screen divided into 9 sections. You can start playback directly by selecting one of the scenes. For details, see "Searching by Scene (PICTURE NAVIGATION)" on the next page.

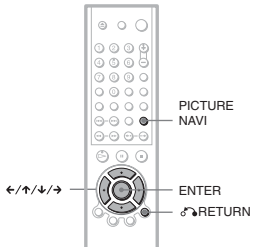
Notes

- The title, chapter, or track number displayed is the same number recorded on the disc.
- You cannot search for a scene on a DVD+RW using the time code.

Searching by Scene

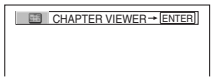
(PICTURE NAVIGATION) DVD-V VCD

You can divide the screen into 9 subscreens and quickly find the desired scene.



1 Press PICTURE NAVI during playback.

The following display appears.

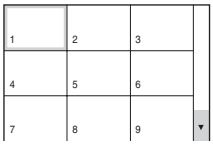


2 Press PICTURE NAVI repeatedly to select an item.

- CHAPTER VIEWER (DVD VIDEO only)
- TITLE VIEWER (DVD VIDEO only)
- TRACK VIEWER (VIDEO CD only)

3 Press ENTER.

The following display appears.



4 Press ←/↑/↓/→ to select a title, chapter, or track, and press ENTER.

Playback starts.

Hint

If there are more than 9 titles, chapters, or tracks, ▼ is displayed at the bottom right of the screen. To display the additional titles, chapters, or tracks, select the bottom scene and press ↓. To return to the previous scene, select the top scene and press ↑.

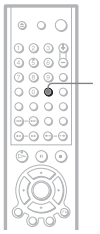
Note

Depending on the disc, you may not be able to select some items.

Viewing Information About the Disc

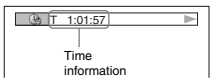
Checking the Playing Time and Remaining Time DVD-V DVD-RW VCD CD DATA CD

You can check the playing time and remaining time of the current title, chapter, or track. Also, you can check the DVD/CD text or track name (MP3 audio) recorded on the disc.



1 Press TIME/TEXT during playback.

The following display appears.



2 Press TIME/TEXT repeatedly to change the time information.

The available time information depends upon the type of disc you are playing.

◆ When playing a DVD VIDEO or DVD-RW

- T ∗:∗:∗ (hours: minutes: seconds)
  Playing time of the current title
- T–∗:∗:∗
  Remaining time of the current title
- C ∗:∗:∗
  Playing time of the current chapter
- C–∗:∗:∗
  Remaining time of the current chapter

◆ When playing a VIDEO CD or Super VCD (with PBC functions)

- ∗:∗ (minutes: seconds)
  Playing time of the current scene

◆ When playing a VIDEO CD (without PBC functions) or CD

- T ∗:∗ (minutes: seconds)
  Playing time of the current track
- T–∗:∗
  Remaining time of the current track
- D ∗:∗
  Playing time of the current disc
- D–∗:∗
  Remaining time of the current disc

◆ When playing a Super VCD (without PBC functions)

- T ∗:∗ (minutes: seconds)
  Playing time of the current track

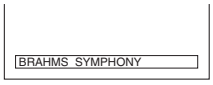
◆ When playing a DATA CD (MP3 audio)

- T ∗:∗ (minutes: seconds)
  Playing time of the current track

Checking the play information of the Disc

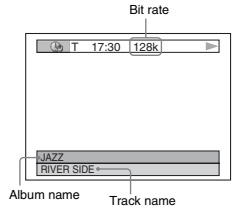
To check DVD/CD text

Press TIME/TEXT repeatedly in Step 2 to display text recorded on the DVD/CD. The DVD/CD text appears only when text is recorded in the disc. You cannot change the text. If the disc does not contain text, "NO TEXT" appears.



To check DATA CD (MP3 audio) text

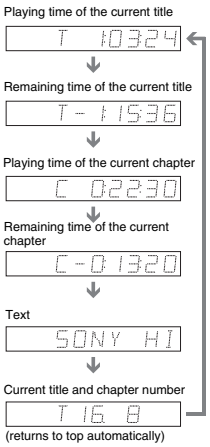
By pressing TIME/TEXT while playing MP3 audio tracks on a DATA CD, the track name and album name appear. You can also display the audio bit rate (the amount of data per second of the current audio) on your TV screen.



Checking the information on the front panel display

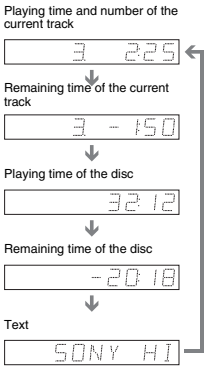
You can view the time information and text displayed on the TV screen also on the front panel display. The information on the front panel display changes as follows when you change the time information on your TV screen.

When playing a DVD VIDEO or DVD-RW



When playing a DATA CD (MP3 audio)

When playing a VIDEO CD (without PBC functions) or CD



Hints

- When playing VIDEO CDs without PBC functions, the track number and the index number are displayed after the text.
- When playing VIDEO CDs with PBC functions, the scene number and the playing time are displayed.
- Long text that does not fit in a single line will scroll across the front panel display.
- You can also check the time information and text using the Control Menu (page 14).

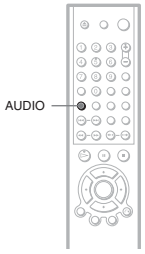
Notes

- Depending on the type of disc being played, the DVD/CD text or track name may not be displayed.
- The player can only display the first level of the DVD/CD text, such as the disc name or title.
- Playing time of MP3 audio tracks may not be displayed correctly.
- If you play a disc containing JPEG image file only, the "NO AUDIO DATA" message appears on the front panel display.

Changing the Sound

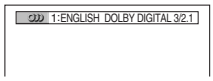
DVD-V DVD-RW VCD CD DATA CD

When playing a DVD VIDEO recorded in multiple audio formats (PCM, Dolby Digital, or DTS), you can change the audio format. If the DVD VIDEO is recorded with multilingual tracks, you can also change the language.
With CDs, DATA CDs, or VIDEO CDs, you can select the sound from the right or left channel and listen to the sound of the selected channel through both the right and left speakers. For example, when playing a disc containing a song with the vocals on the right channel and the instruments on the left channel, you can hear the instruments from both speakers by selecting the left channel.



1 Press AUDIO during playback.

The following display appears.



2 Press AUDIO repeatedly to select the desired audio signal.

◆ When playing a DVD VIDEO

Depending on the DVD VIDEO, the choice of language varies.
When 4 digits are displayed, they indicate a language code. Refer to "Language Code List" on page 77 to see which language the code represents.
When the same language is displayed two or more times, the DVD VIDEO is recorded in multiple audio formats.

◆ When playing a DVD-RW

The type of sound tracks recorded on a disc are displayed. The default setting is underlined.
Example:

- 1: MAIN (main sound)
- 1: SUB (sub sound)
- 1: MAIN+SUB (main and sub sound)

◆ When playing a VIDEO CD, CD, or DATA CD (MP3 audio)

The default setting is underlined.

- STEREO: The standard stereo sound
- 1/L: The sound of the left channel (monaural)
- 2/R: The sound of the right channel (monaural)

◆ When playing a Super VCD

The default setting is underlined.

- 1:STEREO: The stereo sound of the audio track 1
- 1:1/L: The sound of the left channel of the audio track 1 (monaural)
- 1:2/R: The sound of the right channel of the audio track 1 (monaural)
- 2:STEREO: The stereo sound of the audio track 2
- 2:1/L: The sound of the left channel of the audio track 2 (monaural)
- 2:2/R: The sound of the right channel of the audio track 2 (monaural)

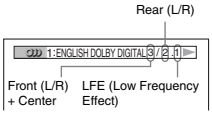
Note

While playing a Super VCD on which the audio track 2 is not recorded, no sound will come out when you select "2:STEREO," "2:1/L," or "2:2/R."

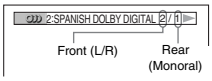
Checking the audio signal format DVD-V

If you press AUDIO repeatedly during playback, the format of the current audio signal (Dolby Digital, DTS, PCM, etc.) appears as shown below.

Example:
Dolby Digital 5.1 ch



Example:
Dolby Digital 3 ch



About audio signals

Audio signals recorded in a disc contain the sound elements (channels) shown below. Each channel is output from a separate speaker.

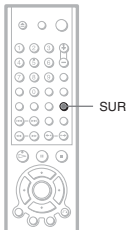
- Front (L)
- Front (R)
- Center
- Rear (L)
- Rear (R)
- Rear (Monaural): This signal can be either the Dolby Surround Sound processed signals or the Dolby Digital sound's monaural rear audio signals.
- LFE (Low Frequency Effect) signal

Note

If "DTS" is set to "OFF" in "AUDIO SETUP" (page 69) the DTS track selection option will not appear on the screen even if the disc contains DTS tracks.

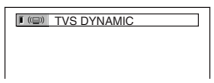
TV Virtual Surround Settings (TVS) DVD-V

When you connect a stereo TV or 2 front speakers, TVS (TV Virtual Surround) lets you enjoy surround sound effects by using sound imaging to create virtual rear speakers from the sound of the front speakers (L: left, R: right) without using actual rear speakers. TVS was developed by Sony to produce surround sound for home use using just a stereo TV.
If the player is set up to output the signal from the DIGITAL OUT (COAXIAL) jack, the surround effect will only be heard when "DOLBY DIGITAL" is set to "D-PCM" in "AUDIO SETUP" (page 68).



1 Press SUR during playback.

The following display appears.



2 Press SUR repeatedly to select one of the TVS sounds.

Refer to the following explanations given for each item.

- TVS DYNAMIC
- TVS WIDE
- TVS NIGHT
- TVS STANDARD

→continued

To cancel the setting

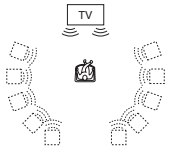
Select "OFF" in Step 2.

◆TVS DYNAMIC

Creates virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers (shown below).
This mode is effective when the distance between the front L and R speakers is short, such as with built-in speakers on a stereo TV.

◆TVS WIDE

Creates virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. The virtual speakers are reproduced as shown in the illustration below.
This mode is effective when the distance between the front L and R speakers is short, such as with built-in speakers on a stereo TV.

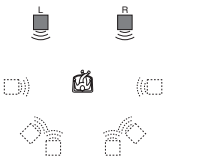


◆TVS NIGHT

Large sounds, such as explosions, are suppressed, but the quieter sounds are unaffected. This feature is useful when you want to hear the dialogue and enjoy the surround sound effects of "TVS WIDE" at low volume.

◆TVS STANDARD

Creates virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. The virtual speakers are reproduced as shown in the illustration below. Use this setting when you want to use surround sound with 2 separate speakers.



L: Front speaker (left)
R: Front speaker (right)
□: Virtual speaker

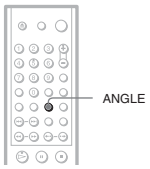
Notes

- When the playing signal does not contain a signal for the rear speakers, the surround effects cannot be heard.
- When you select one of the TVS modes, turn off the surround setting of the connected TV or amplifier (receiver).
- Make sure that your listening position is between and at an equal distance from your speakers, and that the speakers are located in similar surroundings.
- Not all discs will respond to the "TVS NIGHT" function in the same way.

Changing the Angles

DVD-V

If various angles (multi-angles) for a scene are recorded on the DVD VIDEO, "" appears in the front panel display. This means that you can change the viewing angle.



1 Press ANGLE during playback.

The number of the angle appears on the display.

2 Press ANGLE repeatedly to select the angle number.

The scene changes to the selected angle.

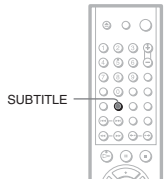
Note

Depending on the DVD VIDEO, you may not be able to change the angles even if multi-angles are recorded on the DVD VIDEO.

Displaying the Subtitles

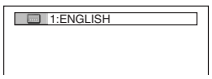
DVD-V DVD-RW

If subtitles are recorded on the discs, you can change the subtitles or turn them on and off whenever you want while playing a DVD.



1 Press SUBTITLE during playback.

The following display appears.



2 Press SUBTITLE repeatedly to select the setting.

◆ When playing a DVD VIDEO
Select the language.
Depending on the DVD VIDEO, the choice of language varies.
When 4 digits are displayed, they indicate a language code. Refer to "Language Code List" on page 77 to see which language the code represents.

◆ When playing a DVD-RW
Select "ON."

To turn off the subtitles
Select "OFF" in Step 2.

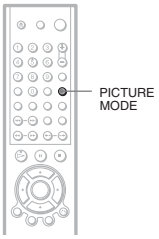
Note

Depending on the DVD VIDEO, you may not be able to change the subtitles even if multilingual subtitles are recorded on it. You also may not be able to turn them off.

Adjusting the Playback Picture (CUSTOM PICTURE MODE)

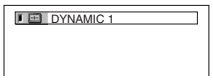
DVD-V DVD-RW VCD DATA CD

You can adjust the video signal of the DVD, VIDEO CD or DATA CD in JPEG format from the player to obtain the picture quality you want. Choose the setting that best suits the program you are watching.



1 Press PICTURE MODE during playback.

The following display appears.



2 Press PICTURE MODE repeatedly to select the setting you want.

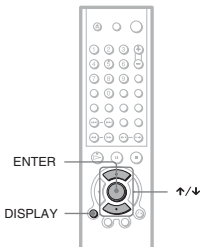
The default setting is underlined.
- STANDARD: displays a standard picture.
- DYNAMIC 1: produces a bold dynamic picture by increasing the picture contrast and the color intensity.
- DYNAMIC 2: produces a more dynamic picture than DYNAMIC 1 by further increasing the picture contrast and the color intensity.
- CINEMA 1: enhances details in dark areas by increasing the black level.
- CINEMA 2: White colors become brighter and black colors become richer, and the color contrast is increased.

Hint
When you watch a movie, "CINEMA 1" or "CINEMA 2" is recommended.

Sharpening the Outline of an Image (SHARPNESS)

DVD-V DVD-RW VCD DATA CD

The Sharpness function sharpens the outlines of images on your TV screen.

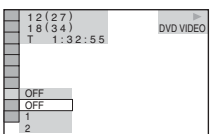


1 Press DISPLAY during playback.

The Control Menu appears.

2 Press ↑/↓ to select (SHARPNESS), then press ENTER.

The options for "SHARPNESS" appear.



3 Press ↑/↓ to select a level.

- 1: enhances the outline.
- 2: enhances the outline more than 1.

4 Press ENTER.

The selected setting takes effect.

To cancel the "SHARPNESS" setting
Select "OFF" in Step 3.

About MP3 Audio Tracks and JPEG Image Files

What is MP3/JPEG?

MP3 is audio compression technology that satisfies the ISO/MPEG regulations. JPEG is image compression technology.

Discs that the player can play

You can play back DATA CDs (CD-ROMs/CD-Rs/CD-RWs) recorded in MP3 (MPEG1 Audio Layer 3) and JPEG format. However, the discs must be recorded according to ISO9660 level 1, level 2 or Joliet format for the player to recognize the tracks (or files). You can also play discs recorded in Multi Session.
See the instructions supplied with the CD-R/CD-RW drives and the recording software (not supplied) for details on the recording format.

Note on the multi-session disc
If MP3 audio tracks or JPEG image files are recorded in the first session, the player will also play MP3 audio tracks or JPEG image files in other sessions. If audio tracks and images in Music CD format or Video CD format are recorded in the first session, only the first session will be played back.

Note

The player may not be able to play some DATA CDs created in the Packet Write format. In this case, you cannot view the JPEG images recorded.

MP3 audio track or JPEG image file that the player can play

The player can play the MP3 audio tracks or JPEG image files:
- which have the extension ".MP3" (MP3 audio track), ".JPG" or ".JPEG" (JPEG image file)
- which conform to the DCF* image file format

* "Design rule for Camera File system": Image standards for digital cameras regulated by Japan Electronic Industries Development Association (JEIDA)

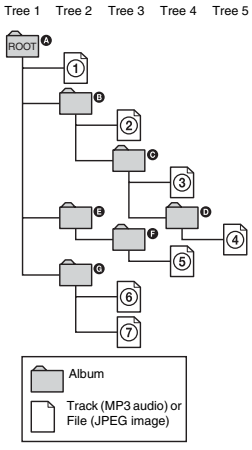
Notes

- The player will play any data with the extension ".MP3", ".JPG" or ".JPEG" even if they are not in MP3 or JPEG format. Playing this data may generate a loud noise which could damage your speaker system.
- The player does not conform to audio in MP3PRO format.

Playback order of MP3 audio tracks or JPEG image files

The playback order of albums, MP3 audio tracks, or JPEG image files recorded on a DATA CD is as follows:

◆Structure of disc contents



When you insert a DATA CD and press ▷, the numbered tracks (or files) are played sequentially, from ① through ⑦. Any sub-albums/tracks (or files) contained within a currently selected album take priority over the next album in the same tree. (Example: ⓒ contains ⓓ so ④ is played before ⑤.)

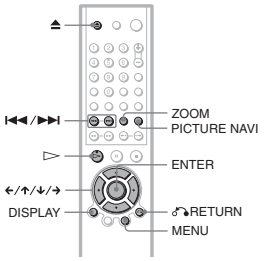
When you press MENU and the list of album names appears (page 52), the album names are arranged in the following order:
Ⓐ → Ⓑ → Ⓒ → Ⓓ → Ⓕ → Ⓖ. Albums that do not contain tracks (or files) (such as album Ⓔ) do not appear in the list.

Hints
- If you add numbers (01, 02, 03, etc.) to the front of the track/file names when you store the tracks (or files) in a disc, the tracks and files will be played in that order.
- Since a disc with many trees takes longer to start playback, it is recommended that you create albums with no more than two trees.

Notes
- Depending on the software you use to create the DATA CD, the playback order may differ from the above illustration.
- The playback order above may not be applicable if there are more than 200 albums and 300 files in each album.
- The player can recognize up to 200 albums (the player will count just albums, including albums that do not contain MP3 audio tracks and JPEG image files). The player will not play any albums beyond the first 200 albums.
- The player may take longer time to playback, when progressing to the following album or jump to other album.
- Some types of JPEG file cannot be played.

Playing DATA CDs with MP3 Audio Tracks and JPEG Image Files DATA CD

MP3 audio tracks and JPEG image files recorded on DATA CDs (CD-ROMs/CD-Rs/CD-RWs) can be played on this player.



Hints
- You can view the disc information while playing MP3 audio tracks and JPEG image files (page 41).
- You can select Repeat Play (page 35) and audio (page 44) while playing an MP3 audio track.

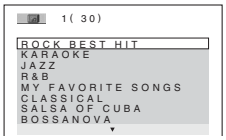
Note

KODAK Picture CD starts playback automatically when the disc is inserted.

→continued

Selecting an album from a DATA CD

1 Insert a DATA CD into the disc tray.
The list of albums recorded on the DATA CD appears.
When an album is being played, its title is shaded. You can turn the album list on and off by pressing the MENU button.



2 Press ↑/↓ to select the album you want and press ▷.
The player starts playing the selected album.

To stop playback
Press ■.

To play the next or previous MP3 audio track
Press ▶▶I or I◀◀. Note that you can select the next album by continuing to press ▶▶I after the last track on the first album, but that you cannot return to the previous album by pressing I◀◀. To return to the previous album, select the album from the album list.

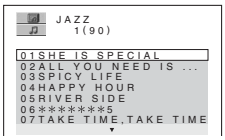
To go to the next or previous JPEG image file
Press → or ←. Note that you can select the next album by continuing to press → after the last image on the first album, but that you cannot return to the previous album by pressing ←. To return to the previous album, select the album from the album list.

To turn off the display
Press MENU.

Selecting an MP3 audio track from a DATA CD

1 Insert a DATA CD into the disc tray.
The albums recorded on the DATA CD appear. When an album is being played, its title is shaded.

2 Select an album using ↑/↓ and press ENTER.
The list of tracks contained in the album appears.



3 Select a track using ↑/↓ and press ENTER.
The selected track starts playing. You can turn the track list off by pressing the MENU button. Pressing the MENU button again will display the album list.

To stop playback
Press ■.

To play the next or previous MP3 audio track
Press ▶▶I or I◀◀. Note that you can select the next album by continuing to press ▶▶I after the last track on the first album, but that you cannot return to the previous album by pressing I◀◀. To return to the previous album, select the album from the album list.

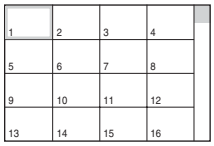
To return to the previous display
Press ↶ RETURN.

To turn off the display
Press MENU.

Selecting a JPEG image file from a DATA CD

1 Insert a DATA CD into the disc tray.
The albums recorded on the DATA CD appear. When an album is being played, its title is shaded.

2 Select an album using ↑/↓ and press PICTURE NAVI.
Images of files in the album appear in 16 subscreens.



3 Select the image you want to view by pressing ←/↑/↓/→ and press ENTER.
A JPEG image is displayed on the screen.

To go to the next or previous JPEG image file
Press → or ←. Note that you can select the next album by continuing to press → after the last image on the first album, but that you cannot return to the previous album by pressing ←. To return to the previous album, select the album from the album list.

To view the images as a slideshow
Press ▷. The slideshow starts from the selected image.

To stop playback
Press ■.

Hints
- A scroll box is displayed at the right side of the screen.
  To display the additional image files, select the bottom image and press ↓. To return to the previous image, select the top image and press ↑.
- You can also change the slideshow duration (page 56), effect (page 57), and sharpness (page 49) while playing JPEG image files.

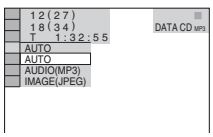
Playing Audio Tracks and Images as a Slideshow with Sound

You can play a slideshow with sound by first placing both JPEG and MP3 files in the same album on a DATA CD. Then, when you play back the DATA CD, select AUTO mode as explained below.

1 Insert a DATA CD into the disc tray.
The albums recorded on the DATA CD appear.

2 Press DISPLAY.
The Control Menu appears.

3 Press ↓/↑ to select MODE(MP3,JPEG), then press ENTER.
The options for "MODE(MP3,JPEG)" appear.



4 Press ↓/↑ to select the setting you want and press ENTER.
The default setting is underlined.

◆AUTO:
Playback JPEG image files as a slideshow with sound (MP3 audio track).

◆AUDIO(MP3):
Playback MP3 audio tracks continuously.

◆IMAGE(JPEG):
Playback JPEG image files as a slideshow.

→continued

5 Press MENU.
The list of albums recorded on the DATA CD appears.

6 Press ↓/↑ to select the album you want and press ▷.
The player starts playing the selected album.

You can turn the album list on and off by pressing the MENU button repeatedly.

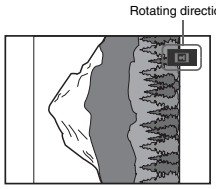
Hints
- You can also change the slideshow duration (page 56), effect (page 57) and sharpness (page 49) while viewing JPEG image files.
- If you want to play a slideshow to the same audio track, set the track to Repeat Play (page 35).
- When you select AUTO, the player can recognize up to 300 MP3 tracks and 300 JPEG files in a single album. When you select AUDIO(MP3) or IMAGE(JPEG), the player can recognize up to 600 MP3 tracks and 600 JPEG files in a single album. A maximum of 200 albums can be recognized regardless of the selected mode.

Notes
- You cannot playback JPEG files and MP3 tracks at the same time if they are not contained in the same album.
- When the JPEG image file's playback duration is longer than the MP3 audio track, the image slideshow continues without sound.
- When the MP3 audio track is longer than the JPEG image file's playback duration, the audio track continues with no slideshow.
- If there are no MP3 audio tracks and JPEG image files in the DATA CD, the "No audio data" and "No image data" messages appear on the screen.
- The PICTURE NAVI button does not work when AUDIO(MP3) is selected.

Rotating a JPEG image

When a JPEG image file is displayed on the screen, you can rotate the image by 90 degrees.

Press ↑/↓ while viewing an image. Each time you press ↑, the image rotates counterclockwise by 90 degrees.
Example of when you press ↑ once:

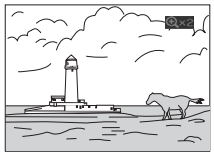


Press CLEAR to return to normal view.

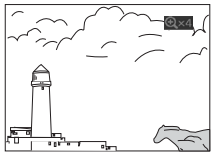
Magnifying a JPEG image

When a JPEG image is displayed on the screen, you can enlarge the image by using the zoom function.

◆Press ZOOM once
Enlarge the image by twice (x2) the actual size.



◆Press ZOOM twice
Enlarge the image by twice (x4) the preceding size (x2).



To return to the actual image size at any time

Press CLEAR.

Hint

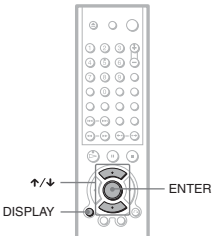
You can also move the enlarged picture using ←/↑/↓/→.

Notes

- If you press ← or → to go to the next or previous image, the rotating a JPEG image functions are canceled.
- The slideshow stops when you press ↑/↓ or ZOOM buttons
- Nothing happens when you press ← while playing the first image file of the album.

Specifying the slideshow duration DATA CD

When you play JPEG image files using slideshow you can specify the duration for which the slides are displayed on the screen.

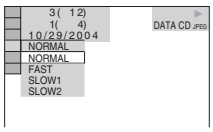


1 Press DISPLAY twice.

The Control Menu for JPEG appears.

2 Press ↑/↓ to select (INTERVAL), then press ENTER.

The options for "INTERVAL" appear.



3 Press ↑/↓ to select the setting you want.

The default setting is underlined.

◆ **NORMAL:**
Sets the duration to about 6 seconds.

◆ **FAST:**
Sets the duration to about 3 seconds.

◆ **SLOW1:**
Sets the duration to about 12 seconds.

◆ **SLOW2:**
Sets the duration to about 30 seconds.

4 Press ENTER.

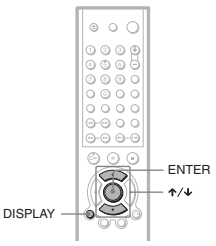
The selected setting takes effect.

Note

Some JPEG files may take longer to display than others, which may make the duration seem longer that the one you selected, especially progressive JPEG file.

Selecting an effect for image files in the slideshow DATA CD

When you play a JPEG image file, you can select the effect to be used when viewing the slideshow.

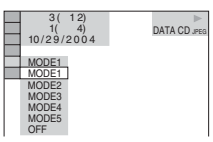


1 Press DISPLAY twice.

The Control Menu for JPEG appears.

2 Press ↑/↓ to select (EFFECT), then press ENTER.

The options for "EFFECT" appear.



3 Press ↑/↓ to select the setting you want.

The default setting is underlined.

◆ **MODE1:**
The image sweeps in from top to bottom.

◆ **MODE2:**
The image sweeps in from left to right.

◆ **MODE3:**
The image stretches out from the center of the screen.

◆ **MODE4:**
The images randomly cycle through the effects.

◆ **MODE5:**
The next image slides over the previous image.

4 Press ENTER.

The selected setting takes effect.

Locking Discs (CUSTOM PARENTAL CONTROL, PARENTAL CONTROL)

You can set two kinds of playback restrictions for the desired disc.

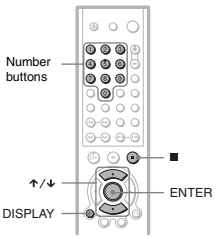
- Custom Parental Control
  You can set playback restrictions so that the player will not play inappropriate discs.
- Parental Control
  Playback of some DVD VIDEOs can be limited acording to a predetermined level such as the age of the users. Scenes may be blocked or replaced with different scenes.

The same password is used for both Parental Control and Custom Parental Control.

Custom Parental Control

DVD-V VCD CD

You can set the same Custom Parental Control password for up to 40 discs. When you set the 41st-disc, the first disc is canceled.



1 Insert the disc you want to lock.

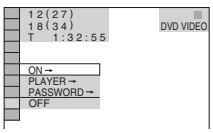
If the disc is playing, press ■ to stop playback.

2 Press DISPLAY while the player is in stop mode.

The Control Menu appears.

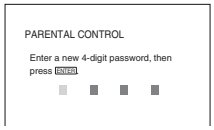
3 Press ↑/↓ to select (PARENTAL CONTROL), then press ENTER.

The options for "PARENTAL CONTROL" appear.



4 Press ↑/↓ to select "ON →," then press ENTER.

◆ **If you have not entered a password**
The display for registering a new password appears.



Enter a 4-digit password using the number buttons, then press ENTER. The display for confirming the password appears.

◆ **When you have already registered a password**
The display for entering the password appears.

5 Enter or re-enter your 4-digit password using the number buttons, then press ENTER.

"Custom parental control is set." appears and then the screen returns to the Control Menu.

To turn off the Custom Parental Control function

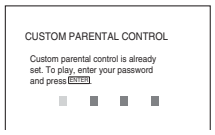
1 Follow Steps 1 through 3 of "Custom Parental Control."

2 Press ↑/↓ to select "OFF →," then press ENTER.

3 Enter your 4-digit password using the number buttons, then press ENTER.

To play a disc for which Custom Parental Control is set

1 Insert the disc for which Custom Parental Control is set.
The "CUSTOM PARENTAL CONTROL" display appears.



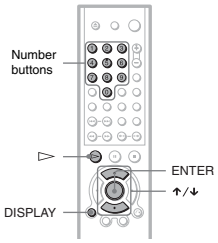
2 Enter your 4-digit password using the number buttons, then press ENTER.
The player is ready for playback.

Hint

If you forget your password, enter the 6-digit number "199703" using the number buttons when the "CUSTOM PARENTAL CONTROL" display asks you for your password, then press ENTER. The display will ask you to enter a new 4-digit password.

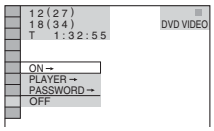
Parental Control (limited playback) DVD-V

Playback of some DVD VIDEOs can be limited according to a predetermined level such as the age of the users. The "PARENTAL CONTROL" function allows you to set a playback limitation level.



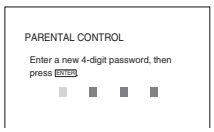
1 Press DISPLAY while the player is in stop mode.
The Control Menu appears.

2 Press ↑/↓ to select (PARENTAL CONTROL), then press ENTER.
The options for "PARENTAL CONTROL" appear.



3 Press ↑/↓ to select "PLAYER →," then press ENTER.

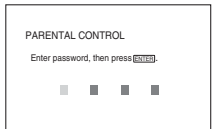
◆ If you have not entered a password
The display for registering a new password appears.



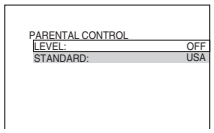
Enter a 4-digit password using the number buttons, then press ENTER.
The display for confirming the password appears.

→continued

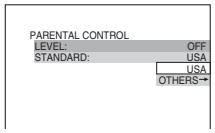
◆ When you have already registered a password
The display for entering the password appears.



4 Enter or re-enter your 4-digit password using the number buttons, then press ENTER.
The display for setting the playback limitation level appears.

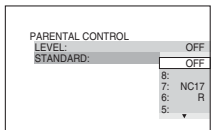


5 Press ↑/↓ to select "STANDARD," then press ENTER.
The selection items for "STANDARD" are displayed.

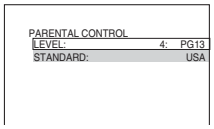


6 Press ↑/↓ to select a geographic area as the playback limitation level, then press ENTER.
The area is selected.
When you select "OTHERS →," select and enter a standard code in the table on page 61 using the number buttons.

7 Press ↑/↓ to select "LEVEL," then press ENTER.
The selection items for "LEVEL" are displayed.



8 Select the level you want using ↑/↓, then press ENTER.
Parental Control setting is complete.



The lower the value, the stricter the limitation.

To turn off the Parental Control function

Set "LEVEL" to "OFF" in Step 8.

To play a disc for which Parental Control is set

1 Insert the disc and press ▷.
The display for entering your password appears.

2 Enter your 4-digit password using the number buttons, then press ENTER.
The player starts playback.

Hint

If you forget your password, remove the disc and repeat Steps 1 to 3 of "Parental Control (limited playback)." When you are asked to enter your password, enter "199703" using the number buttons, then press ENTER. The display will ask you to enter a new 4-digit password. After you enter a new 4-digit password, replace the disc in the player and press ▷. When the display for entering your password appears, enter your new password.

Notes

- The Control Menu display will show different items depending on the disc type.
- When you play discs which do not have the Parental Control function, playback cannot be limited on this player.
- Depending on the disc, you may be asked to change the parental control level while playing the disc. In this case, enter your password, then change the level. If the Resume Play mode is canceled, the level returns to the previous level.

Area Code

Standard	Code number
Argentina	2044
Australia	2047
Austria	2046
Belgium	2057
Brazil	2070
Canada	2079
Chile	2090
China	2092
Denmark	2115
Finland	2165
France	2174
Germany	2109
India	2248
Indonesia	2238
Italy	2254
Japan	2276
Korea	2304
Malaysia	2363
Mexico	2362
Netherlands	2376
New Zealand	2390
Norway	2379
Pakistan	2427
Philippines	2424
Portugal	2436
Russia	2489
Singapore	2501
Spain	2149
Sweden	2499
Switzerland	2086
Thailand	2528
United Kingdom	2184

Changing the password

1 Press DISPLAY while the player is in stop mode.
The Control Menu appears.

2 Press ↑/↓ to select (PARENTAL CONTROL), then press ENTER.
The options for "PARENTAL CONTROL" appear.

3 Press ↑/↓ to select "PASSWORD →," then press ENTER.
The display for entering the password appears.

4 Enter your 4-digit password using the number buttons, then press ENTER.

5 Enter a new 4-digit password using the number buttons, then press ENTER.

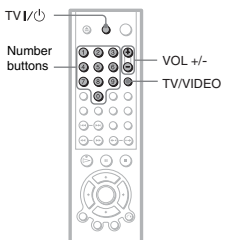
6 To confirm your password, re-enter it using the number buttons, then press ENTER.

If you make a mistake entering your password

Press ← before you press ENTER and input the correct number.

Controlling Your TV with the Supplied Remote

You can control the sound level, input source, and power switch of your Sony TV with the supplied remote.



You can control your TV using the buttons below.

By pressing	You can
TV I/⏻	Turn the TV on or off
VOL +/–	Adjust the volume of the TV
TV/VIDEO	Switch the TV's input source between the TV and other input sources.

Note

Depending on the unit being connected, you may not be able to control your TV using all or some of the buttons on the supplied remote.

Controlling other TVs with the remote

You can control the sound level, input source, and power switch of non-Sony TVs as well. If your TV is listed in the table below, set the appropriate manufacturer's code.

1 While holding down TV I/⏻, press the number buttons to select your TV's manufacturer's code (see the table below).

2 Release TV I/⏻.

Code numbers of controllable TVs

If more than one code number is listed, try entering them one at a time until you find the one that works with your TV.

Manufacturer	Code number
Sony	01 (default)
Daewoo	04, 22
Hitachi	02, 04
JVC	09
LG/Goldstar	04
MGA/Mitsubishi	04, 13
Panasonic	19
Philips	21
RCA	04, 10
Samsung	04, 20
Sharp	18
Toshiba	07, 18

Notes

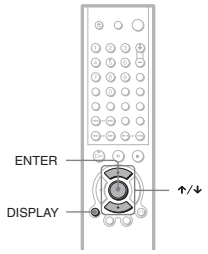
- If you enter a new code number, the code number previously entered will be erased.
- When you replace the remote's batteries, the code number you have set may be reset to the default setting. Set the appropriate code number again.
- Depending on the unit being connected, you may not be able to control your TV using all or some of the buttons on the supplied remote.

Using the Setup Display

By using the Setup Display, you can make various adjustments to items such as picture and sound. You can also set a language for the subtitles and the Setup Display, among other things. For details on each Setup Display item, see pages from 64 to 68.

Note

Playback settings stored in the disc take priority over the Setup Display settings and not all of the functions described may work.

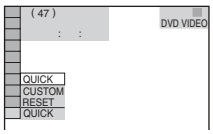


1 Press DISPLAY when the player is in stop mode.

The Control Menu appears.

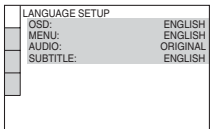
2 Press ↑/↓ to select (SETUP), then press ENTER.

The options for "SETUP" appear.



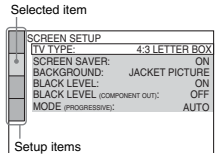
3 Press ↑/↓ to select "CUSTOM," then press ENTER.

The Setup Display appears.



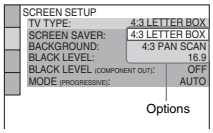
4 Press ↑/↓ to select the setup item from the displayed list: "LANGUAGE SETUP," "SCREEN SETUP," "CUSTOM SETUP," or "AUDIO SETUP." Then press ENTER.

The Setup item is selected.
Example: "SCREEN SETUP"



5 Select an item using ↑/↓, then press ENTER.

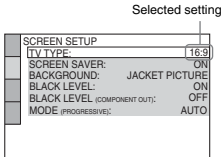
The options for the selected item appear.
Example: "TV TYPE"



→continued

6 Select a setting using ↑/↓, then press ENTER.

The setting is selected and setup is complete.
Example: "16:9"



To enter the Quick Setup mode

Select "QUICK" in Step 3. Follow from Step 5 of the Quick Setup explanation to make basic adjustments (page 25).

To reset all of the "SETUP" settings

1 Select "RESET" in Step 3 and press ENTER.

2 Select "YES" using ↑/↓.
You can also quit the process and return to the Control Menu by selecting "NO" here.

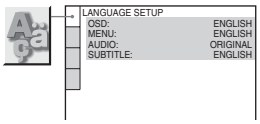
3 Press ENTER.
All of the settings explained on pages 64 to 69 return to the default settings. Do not press I/⏻ while resetting the player as it takes a few seconds to complete.

Setting the Display or Sound Track Language

(LANGUAGE SETUP)

"LANGUAGE SETUP" allows you to set various languages for the on-screen display or sound track.

Select "LANGUAGE SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 63).



◆ OSD (On-Screen Display)
Switches the display language on the screen.

◆ MENU (DVD VIDEO only)
You can select the desired language for the disc's menu.

◆ AUDIO (DVD VIDEO only)
Switches the language of the sound track. When you select "ORIGINAL," the language given priority in the disc is selected.

◆ SUBTITLE (DVD VIDEO only)
Switches the language of the subtitle recorded on the DVD VIDEO.
When you select "AUDIO FOLLOW," the language for the subtitles changes according to the language you selected for the sound track.

Hint
If you select "OTHERS →" in "MENU," "SUBTITLE," and "AUDIO," select and enter a language code from "Language Code List" on page 77 using the number buttons.

Note

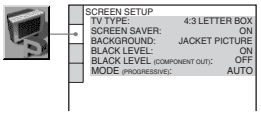
When you select a language in "MENU," "SUBTITLE," or "AUDIO" that is not recorded on the DVD VIDEO, one of the recorded languages will be automatically selected.

Settings for the Display

(SCREEN SETUP)

Choose settings according to the TV to be connected.

Select "SCREEN SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 63).
The default settings are underlined.



◆ TV TYPE
Selects the aspect ratio of the connected TV (4:3 standard or wide).

4:3 LETTER BOX	Select this when you connect a 4:3 screen TV. Displays a wide picture with bands on the upper and lower portions of the screen.
4:3 PAN SCAN	Select this when you connect a 4:3 screen TV. Automatically displays the wide picture on the entire screen and cuts off the portions that do not fit.
16:9	Select this when you connect a wide-screen TV or a TV with a wide mode function.

4:3 LETTER BOX

4:3 PAN SCAN

16:9

Note

Depending on the DVD, "4:3 LETTER BOX" may be selected automatically instead of "4:3 PAN SCAN" or vice versa.

◆ SCREEN SAVER
The screen saver image appears when you leave the player in pause or stop mode for 15 minutes, or when you play a CD or DATA CD (MP3 audio) for more than 15 minutes. The screen saver will help prevent your display device from becoming damaged (ghosting). Press ▷ to turn off the screen saver.

ON	Turns on the screen saver.
OFF	Turns off the screen saver.

◆ BACKGROUND
Selects the background color or picture on the TV screen in stop mode or while playing a CD or DATA CD (MP3 audio).

JACKET PICTURE	The jacket picture (still picture) appears, but only when the jacket picture is already recorded on the disc (CD-EXTRA, etc.). If the disc does not contain a jacket picture, the "GRAPHICS" picture appears.
GRAPHICS	A preset picture stored in the player appears.
BLUE	The background color is blue.
BLACK	The background color is black.

◆ BLACK LEVEL
Selects the black level (setup level) for the video signals output from the jacks other than COMPONENT VIDEO OUT.

ON	Sets the black level of the output signal to the standard level.
OFF	Lowers the standard black level. Use this when the picture becomes too white.

→continued

◆ BLACK LEVEL (COMPONENT OUT)
Selects the black level (setup level) for the video signals output from the COMPONENT VIDEO OUT jacks. When progressive signals are being output (PROGRESSIVE is lit on the front panel display), BLACK LEVEL (COMPONENT OUT) is set to off regardless of the setting (ON/OFF).

OFF	Sets the black level of the output signal to the standard level.
ON	Raises the standard black level. Use this when the picture becomes too black.

When NORMAL/PROGRESSIVE switch is set to PROGRESSIVE

You can fine-tune the Progressive (480p) video signal output when you set NORMAL/PROGRESSIVE switch to PROGRESSIVE (the PROGRESSIVE indicator lights up) and connect the player using the COMPONENT VIDEO OUT jacks to a TV that is able to accept the video signal in progressive format.

◆ MODE(PROGRESSIVE)
DVD software can be divided into two types: film based software and video based software. Video based software is derived from TV, such as dramas and sit-coms, and displays images at 30 frames/60 fields per second. Film based software is derived from film and displays images at 24 frames per second. Some DVD software contains both Video and Film.
In order for these images to appear natural on your screen when output in PROGRESSIVE mode (60 frames per second), the progressive video signal needs to be converted to match the type of DVD software that you are watching.

AUTO	This will automatically detect if you are playing Film based or Video based software and convert the signal to the appropriate conversion mode. Normally select this position.
VIDEO	This will set the conversion mode for Video based software, regardless of the type of software that you are playing.

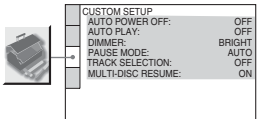
Note

Using the LINE OUT (VIDEO) jack or the S VIDEO OUT jack will cause the picture to become unclear or go blank when you set NORMAL/PROGRESSIVE switch to PROGRESSIVE. In this case, set NORMAL/PROGRESSIVE switch to NORMAL so that the PROGRESSIVE indicator turns off.

Custom Settings (CUSTOM SETUP)

Use this to set up playback related and other settings.

Select "CUSTOM SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 63).
The default settings are underlined.



◆ AUTO POWER OFF

Switches the Auto Power Off setting on or off.

OFF	Switches this function off.
ON	The player enters standby mode when left in stop mode for more than 30 minutes.

◆ AUTO PLAY

Switches the Auto Play setting on or off. This function is useful when the player is connected to a timer (not supplied).

OFF	Switches this function off.
ON	Automatically starts playback when the player is turned on by a timer (not supplied).

◆ DIMMER

Adjusts the lighting of the front panel display.

BRIGHT	Makes the lighting bright.
DARK	Makes the lighting dark.

◆ PAUSE MODE (DVD VIDEO/DVD-RW only)

Selects the picture in pause mode.

AUTO	The picture, including subjects that move dynamically, is output with no jitter. Normally select this position.
FRAME	The picture, including subjects that do not move dynamically, is output in high resolution.

◆ TRACK SELECTION (DVD VIDEO only)

Gives the sound track which contains the highest number of channels priority when you play a DVD VIDEO on which multiple audio formats (PCM, DTS, or Dolby Digital format) are recorded.

OFF	No priority given.
AUTO	Priority given.

Notes

- When you set the item to "AUTO," the language may change. The "TRACK SELECTION" setting has higher priority than the "AUDIO" settings in "LANGUAGE SETUP" (page 64).
- If you set "DTS" to "OFF" (page 69), the DTS sound track is not played even if you set "TRACK SELECTION" to "AUTO."
- If PCM, DTS, and Dolby Digital sound tracks have the same number of channels, the player selects PCM, DTS, and Dolby Digital sound tracks in this order.

◆ MULTI-DISC RESUME (DVD VIDEO/VIDEO CD only)

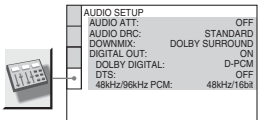
Switches the Multi-disc Resume setting on or off. Resume playback point can be stored in memory for up to 6 different DVD VIDEO/VIDEO CD discs (page 29).

ON	Stores the resume settings in memory for up to six discs.
OFF	Does not store the resume settings in memory. Playback restarts at the resume point only for the current disc in the player.

Settings for the Sound (AUDIO SETUP)

"AUDIO SETUP" allows you to set the sound according to the playback and connection conditions.

Select "AUDIO SETUP" in the Setup Display. To use the display, see "Using the Setup Display" (page 63).
The default settings are underlined.



◆ AUDIO ATT (attenuation)

If the playback sound is distorted, set this item to "ON." The player reduces the audio output level.
This function affects the output of the LINE OUT L/R (AUDIO) jacks.

OFF	Normally, select this position.
ON	Select this when the playback sound from the speakers is distorted.

◆ AUDIO DRC (Dynamic Range Control) (DVD VIDEO/DVD-RW only)

Makes the sound clear when the volume is turned down when playing a DVD that conforms to "AUDIO DRC." This affects the output from the following jacks:
– LINE OUT L/R (AUDIO) jacks
– DIGITAL OUT (COAXIAL) jack only when "DOLBY DIGITAL" is set to "D-PCM" (page 69).

STANDARD	Normally select this position.
TV MODE	Makes the low sounds clear even if you turn the volume down.
WIDE RANGE	Gives you the feeling of being at a live performance.

◆ DOWNMIX (DVD VIDEO/DVD-RW only)

Switches the method for mixing down to 2 channels when you play a DVD which has rear sound elements (channels) or is recorded in Dolby Digital format. For details on the rear signal components, see "Checking the audio signal format" (page 45). This function affects the output of the following jacks:
– LINE OUT L/R (AUDIO) jacks
– DIGITAL OUT (COAXIAL) jack when "DOLBY DIGITAL" is set to "D-PCM" (page 69).

DOLBY SURROUND	Normally, select this position. Multi-channel audio signals are output to two channels for enjoying surround sounds
NORMAL	Multi-channel audio signals are downmixed to two channels for use with your stereo.

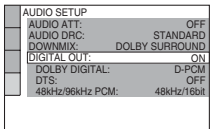
◆ DIGITAL OUT

Selects if audio signals are output via the DIGITAL OUT (COAXIAL) jack.

ON	Normally select this position. When you select "ON," see "Setting the digital output signal" for further settings.
OFF	The influence of the digital circuit upon the analog circuit is minimal.

Setting the digital output signal

Switches the method of outputting audio signals when you connect a component such as an amplifier (receiver) or MD deck with a digital input jack.
For connection details, see page 20.
Select "DOLBY DIGITAL," "DTS," and "48kHz/96kHz PCM" after setting "DIGITAL OUT" to "ON."



If you connect a component that does not conform to the selected audio signal, a loud noise (or no sound) will come out from the speakers, damaging your ears or speakers.

◆ DOLBY DIGITAL (DVD VIDEO/DVD-RW only)

Selects the type of Dolby Digital signal.

D-PCM	Select this when the player is connected to an audio component without a built-in Dolby Digital decoder. You can select whether the signals conform to Dolby Surround (Pro Logic) or not by making adjustments to the "DOWNMIX" item in "AUDIO SETUP" (page 68).
DOLBY DIGITAL	Select this when the player is connected to an audio component with a built-in Dolby Digital decoder.

◆ DTS

Selects whether or not to output DTS signals.

OFF	Select this when the player is connected to an audio component without a built-in DTS decoder.
ON	Select this when the player is connected to an audio component with a built-in DTS decoder.

◆ 48kHz/96kHz PCM (DVD VIDEO only)

Selects the sampling frequency of the audio signal.

48kHz/16bit	The audio signals of DVD VIDEOs are always converted to 48kHz/16bit.
96kHz/24bit	All types of signals including 96kHz/24bit are output in their original format. However, if the signal is encrypted for copyright protection purposes, the signal is only output as 48kHz/16bit.

Note

The analog audio signals from the LINE OUT L/R (AUDIO) jacks are not affected by this setting and keep their original sampling frequency level.

Troubleshooting

If you experience any of the following difficulties while using the player, use this troubleshooting guide to help remedy the problem before requesting repairs.
Should any problem persist, consult your nearest Sony dealer (for customers in the USA only).

Power

The power is not turned on.

➡ Check that the AC power cord is connected securely.

Picture

There is no picture/picture noise appears.

➡ Re-connect the connecting cord securely.
➡ The connecting cords are damaged.
➡ Check the connection to your TV (page 18) and switch the input selector on your TV so that the signal from the player appears on the TV screen.
➡ The disc is dirty or flawed.
➡ If the picture output from your player goes through your VCR to get to your TV or if you are connected to a combination TV/VIDEO player, the copy-protection signal applied to some DVD programs could affect picture quality. If you still experience problems even when you connect your player directly to your TV, please try connecting your player to your TV's S VIDEO input (page 18).
➡ You set the NORMAL/PROGRESSIVE switch to PROGRESSIVE on the rear panel (the PROGRESSIVE indicator lights up) even though your TV cannot accept the progressive signal. In this case, set the NORMAL/PROGRESSIVE switch to NORMAL on the rear panel so that the PROGRESSIVE indicator turns off.
➡ You set the NORMAL/PROGRESSIVE switch to PROGRESSIVE on the rear panel (the PROGRESSIVE indicator lights up) but did not connect your TV to the player's COMPONENT VIDEO OUT jacks using a COMPONENT VIDEO cord. Set to the PROGRESSIVE only when you connect your TV to the player's COMPONENT VIDEO OUT jacks using a component video cord (page 18).
➡ Even if your TV is compatible with progressive format (480p) signals, the image may be affected when you set the player to progressive format. In this case, set the NORMAL/PROGRESSIVE switch to NORMAL so that the PROGRESSIVE indicator turns off and the player is set to normal (interlace) format.

Even though you set the aspect ratio in "TV TYPE" of "SCREEN SETUP," the picture does not fill the screen.

➡ The aspect ratio of the disc is fixed on your DVD.

Sound

There is no sound.

➡ Re-connect the connecting cord securely.
➡ The connecting cord is damaged.
➡ The player is connected to the wrong input jack on the amplifier (receiver) (page 22, 23, 24).
➡ The amplifier (receiver) input is not correctly set.
➡ The player is in pause mode or in Slow-motion Play mode.
➡ The player is in fast forward or fast reverse mode.
➡ If the audio signal does not come through the DIGITAL OUT (COAXIAL) jack, check the audio settings (page 68).
➡ While playing a Super VCD on which the audio track 2 is not recorded, no sound will come out when you select "2:STEREO," "2:1/L," or "2:2/R."

Sound distortion occurs.

➡ Set "AUDIO ATT" in "AUDIO SETUP" to "ON" (page 68).

The sound volume is low.

➡ The sound volume is low on some DVDs. The sound volume may improve if you set "AUDIO DRC" to "TV MODE" (page 68).
➡ Set "AUDIO ATT" in "AUDIO SETUP" to "OFF" (page 68).

Operation

The remote does not function.

➡ There are obstacles between the remote and the player.
➡ The distance between the remote and the player is too far.
➡ The remote is not pointed at the remote sensor on the player.
➡ The batteries in the remote are weak.

The disc does not play.

➡ The disc is turned over.
Insert the disc with the playback side facing down on the disc tray.
➡ The disc is skewed.
➡ The player cannot play certain discs (page 8).
➡ The region code on the DVD does not match the player.
➡ Moisture has condensed inside the player (page 5).
➡ The player cannot play a recorded disc that is not correctly finalized (page 9).

The MP3 audio track cannot be played (page 50).

➡ The DATA CD is not recorded in an MP3 format that conforms to ISO9660 Level 1/ Level 2 or Joliet.
➡ The MP3 audio track does not have the extension ".MP3."
➡ The data is not formatted in MP3 even though it has the extension ".MP3."
➡ The data is not MPEG1 Audio Layer 3 data.
➡ The player cannot play audio tracks in MP3PRO format.
➡ The MODE(MP3,JPEG) setting has been set to IMAGE (JPEG) (page 53).

The JPEG image file cannot be played (page 50)

➡ The DATA CD is not recorded in a JPEG format that conforms to ISO9660 Level 1, or Joliet.
➡ It has an extension other than ".JPG" or ".JPEG".
➡ It is larger than 3072 (width) x 2048 (height) in Normal mode or more than 3,300,000 dots in Progressive JPEG.
➡ It does not fit the screen (those images are reduced).
➡ The MODE(MP3,JPEG) setting has been set to AUDIO (MP3) (page 53).

The MP3 audio tracks and JPEG image files start playing simultaneously.

➡ AUTO has been selected in MODE(MP3,JPEG) (page 53).

The title of the albums, MP3 tracks, or JPEG files are not displayed correctly.

➡ The player can only display numbers and letters of the alphabet. Other characters are displayed as "*."

The disc does not start playing from the beginning.

➡ Program Play, Shuffle Play, Repeat Play, or A-B Repeat Play has been selected (page 32).
➡ Resume play has taken effect (page 29).

The player starts playing the disc automatically.

➡ The disc features an auto playback function.
➡ "AUTO PLAY" in "CUSTOM SETUP" is set to "ON" (page 67).

Playback stops automatically.

➡ While playing discs with an auto pause signal, the player stops playback at the auto pause signal.

You cannot perform some functions such as Stop, Search, Slow-motion Play, Repeat Play, Shuffle Play, or Program Play.

➡ Depending on the disc, you may not be able to do some of the operations above. See the operating manual that comes with the disc.

Additional Information

➡continued

The language for the sound track cannot be changed.

➡ Try using the DVD's menu instead of the direct selection button on the remote (page 30).
➡ Multilingual tracks are not recorded on the DVD being played.
➡ The DVD prohibits the changing of the language for the sound track.

The subtitle language cannot be changed or turned off.

➡ Try using the DVD's menu instead of the direct selection button on the remote (page 30).
➡ Multilingual subtitles are not recorded on the DVD being played.
➡ The DVD prohibits the changing of subtitles.

The angles cannot be changed.

➡ Try using the DVD's menu instead of the direct selection button on the remote (page 30).
➡ Multi-angles are not recorded on the DVD being played.
➡ The angle can only be changed when the "" indicator lights up on the front panel display (page 11).
➡ The DVD prohibits changing of the angles.

The player does not operate properly.

➡ When static electricity, etc., causes the player to operate abnormally, unplug the player.

5 numbers or letters are displayed on the screen and on the front panel display.

➡ The self-diagnosis function was activated. (See the table on page 73.)

The disc tray does not open and "LOCKED" appears on the front panel display.

➡ Child Lock is set (page 28).

The disc tray does not open and "TRAY LOCKED" appears on the front panel display.

➡ Contact your Sony dealer or local authorized Sony service facility.

"Data error" appears on the TV screen when playing a DATA CD.

➡ The MP3 audio track/JPEG image file you want to play is broken.
➡ The data is not MPEG1 Audio Layer 3 data.
➡ The JPEG image file format does not conform to DCF (page 50).
➡ The JPEG image file has the extension ".JPG" or ".JPEG" but not in JPEG format.

Self-diagnosis Function

(When letters/numbers appear in the display)

When the self-diagnosis function is activated to prevent the player from malfunctioning, a five-character service number (e.g., C 13 50) with a combination of a letter and four digits appears on the screen and the front panel display. In this case, check the following table.

First three characters of the service number	Cause and/or corrective action
C 13	The disc is dirty. ➡Clean the disc with a soft cloth (page 9).
C 31	The disc is not inserted correctly. ➡Re-insert the disc correctly.
E XX (xx is a number)	To prevent a malfunction, the player has performed the self-diagnosis function. ➡Contact your nearest Sony dealer or local authorized Sony service facility and give the 5-character service number. Example: E 61 10

Glossary

Album (page 50, 51)
A unit in which to store JPEG image files or MP3 audio tracks on a DATA CD. ("Album" is an exclusive definition for this player.)

Chapter (page 11)
Sections of a picture or a music feature that are smaller than titles. A title is composed of several chapters. Depending on the disc, no chapters may be recorded.

Dolby Digital (page 24, 69)
Digital audio compression technology developed by Dolby Laboratories. This technology conforms to multi-channel surround sound. The rear channel is stereo and there is a discrete subwoofer channel in this format. Dolby Digital provides the same discrete channels of high quality digital audio found in "Dolby Digital" theater surround sound systems. Good channel separation is realized because all of the channel data are recorded discretely and little deterioration is realized because all channel data processing is digital.

Dolby Surround (Pro Logic) (page 23)
Audio signal processing technology that Dolby Laboratories developed for surround sound. When the input signal contains a surround component, the Pro Logic process outputs the front, center and rear signals. The rear channel is monaural.

DTS (page 24, 69)
Digital audio compression technology that Digital Theater Systems, Inc. developed. This technology conforms to multi-channel surround sound. The rear channel is stereo and there is a discrete subwoofer channel in this format. DTS provides the same discrete channels of high quality digital audio.
Good channel separation is realized because all of the channel data is recorded discretely and little deterioration is realized because all channel data processing is digital.

Additional Information

➡continued

DVD VIDEO (page 8)
A disc that contains up to 8 hours of moving pictures even though its diameter is the same as a CD.
The data capacity of a single-layer and single-sided DVD is 4.7 GB (Giga Byte), which is 7 times that of a CD. The data capacity of a double-layer and single-sided DVD is 8.5 GB, a single-layer and double-sided DVD is 9.4 GB, and double-layer and double-sided DVD is 17GB.
The picture data uses the MPEG 2 format, one of the worldwide standards of digital compression technology. The picture data is compressed to about 1/40 (average) of its original size. The DVD also uses a variable rate coding technology that changes the data to be allocated according to the status of the picture. Audio information is recorded in a multi-channel format, such as Dolby Digital, allowing you to enjoy a more real audio presence.
Furthermore, various advanced functions such as the multi-angle, multilingual, and Parental Control functions are provided with the DVD.

DVD-RW (page 8)
A DVD-RW is a recordable and rewritable disc that is the same size as a DVD VIDEO. The DVD-RW has two different modes: VR mode and Video mode. DVD-RWs created in Video mode have the same format as a DVD VIDEO, while discs created in VR (Video Recording) mode allow the contents to be programmed or edited.

DVD+RW (page 8)
A DVD+RW (plus RW) is a recordable and rewritable disc. DVD+RWs use a recording format that is comparable to the DVD VIDEO format.

File (page 50, 53)
A JPEG image recorded on a DATA CD ("File" is an exclusive definition for this player.) A single file consist of a single image.

Film based software, Video based software (page 66)
DVDs can be classified as Film based or Video based software. Film based DVDs contain the same images (24 frames per second) that are shown at movie theaters. Video based DVDs, such as television dramas or sit-coms, displays images at 30 frames (or 60 fields) per second.

Index (CD)/Video Index (VIDEO CD) (page 14)
A number that divides a track into sections to easily locate the point you want on a CD or VIDEO CD. Depending on the disc, no index may be recorded.

Normal (Interlace) format (page 66)
Normal (Interlace) format shows every other line of an image as a single "field" and is the standard method for displaying images on television. The even number field shows the even numbered lines of an image, and the odd numbered field shows the odd numbered lines of an image.

Progressive format (page 66)
Compared to the Normal (Interlace) format that alternately shows every other line of an image (field) to create one frame, the Progressive format shows the entire image at once as a single frame. This means that while the Normal (Interlace) format can show 30 frames/60 fields in one second, the Progressive format can show 60 frames in one second. The overall picture quality increases and still images, text, and horizontal lines appear sharper. This player is compatible with the 480 progressive format.

Progressive JPEG (page 56)
Progressive JPEGs are used mostly on the internet. They are different from other JPEGs in that they "fade in" gradually instead of being drawn from top to bottom when displayed on a browser. This lets you view the image while it is being downloaded.

Scene (page 11)
On a VIDEO CD with PBC (playback control) functions, the menu screens, moving pictures and still pictures are divided into sections called "scenes."

Title (page 11)
The longest section of a picture or music feature on a DVD, movie, etc., in video software, or the entire album in audio software.

Track (page 11)
Sections of a picture or a music feature on a VIDEO CD, CD or DATA CD. (the length of a song). (“Track” in DATA CD is an exclusive definition for this player.)

Specifications

System
Laser: Semiconductor laser
Signal format system: NTSC

Audio characteristics
Frequency response: DVD VIDEO (PCM 96 kHz): 2 Hz to 44 kHz (±1.0 dB)/DVD VIDEO (PCM 48 kHz): 2 Hz to 22 kHz (±0.5 dB)/CD: 2 Hz to 20 kHz (±0.5 dB)
Signal-to-noise ratio (S/N ratio): 115 dB
Harmonic distortion: 0.003 %
Dynamic range: DVD VIDEO: 103 dB/CD: 99 dB
Wow and flutter: Less than detected value (±0.001% W PEAK)

Outputs
(**Jack name:** Jack type/Output level/Load impedance)
LINE OUT (AUDIO): Phono jack/2 Vrms/10 kilohms
DIGITAL OUT (COAXIAL): Phono jack/0.5 Vp-p/75 ohms
COMPONENT VIDEO OUT(Y, P_B, P_R): Phono jack/Y: 1.0 Vp-p/P_B, P_R: 0.65 Vp-p/75 ohms
LINE OUT (VIDEO): Phono jack/1.0 Vp-p/75 ohms
S VIDEO OUT: 4-pin mini DIN/Y: 1.0 Vp-p, C: 0.286 Vp-p/75 ohms

General
Power requirements:
120 V AC, 60 Hz
110 – 240 V AC, 50/60 Hz
See page 5 for further information.
Power consumption: 11 W
Dimensions (approx.):
430 × 43 × 237.7 mm (17 × 2 11/16 × 9 1/3 in.) (width/height/depth) incl. projecting parts
Mass (approx.): 1.95 kg (4 1/3 lb)
Operating temperature: 5 °C to 35 °C (41 °F to 95 °F)
Operating humidity: 25 % to 80 %

Supplied accessories
See page 17.

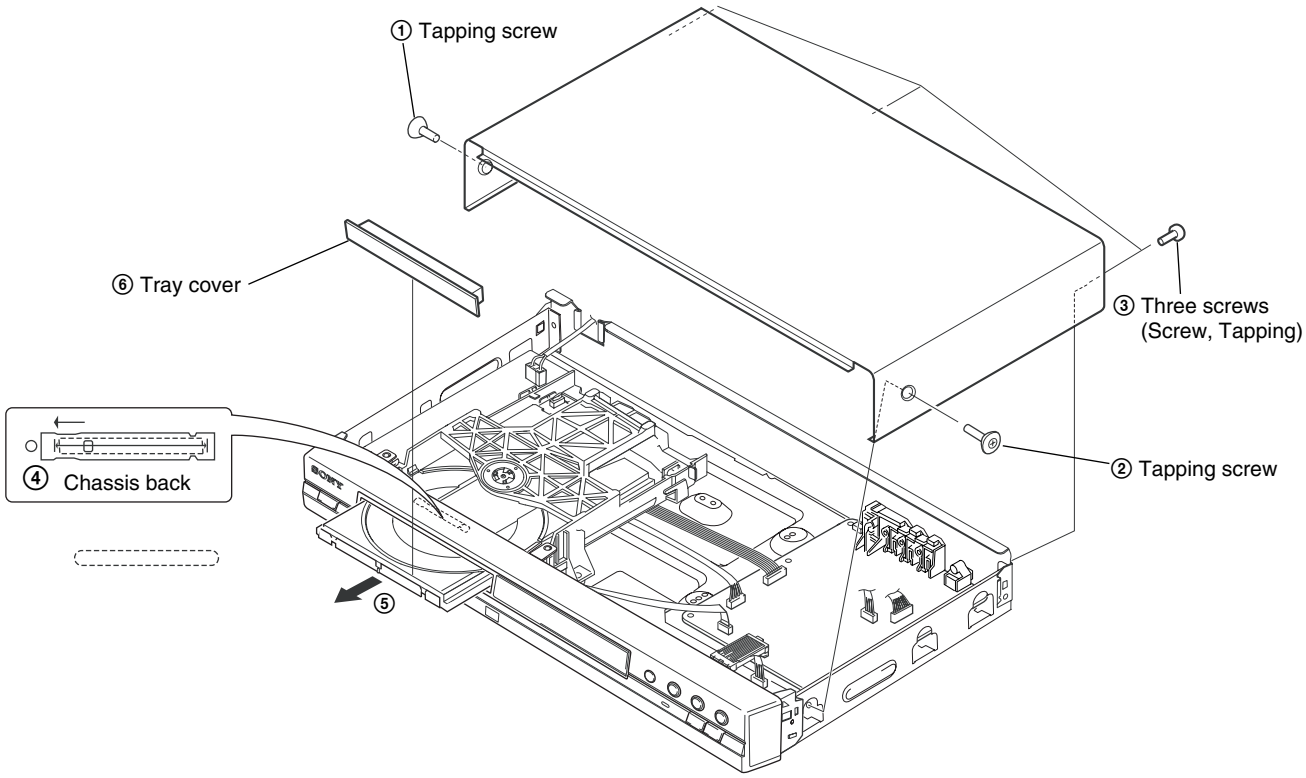
Specifications and design are subject to change without notice.

ENERGY STAR® is a U.S. registered mark. As an ENERGY STAR® Partner, Sony Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

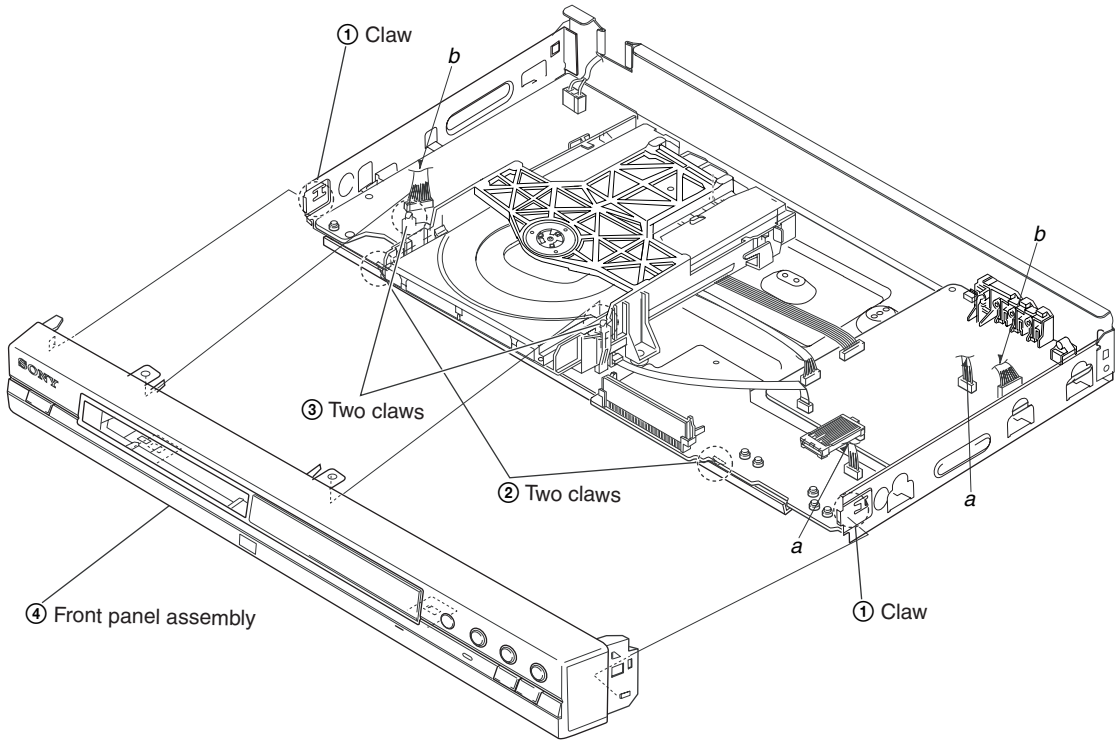
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

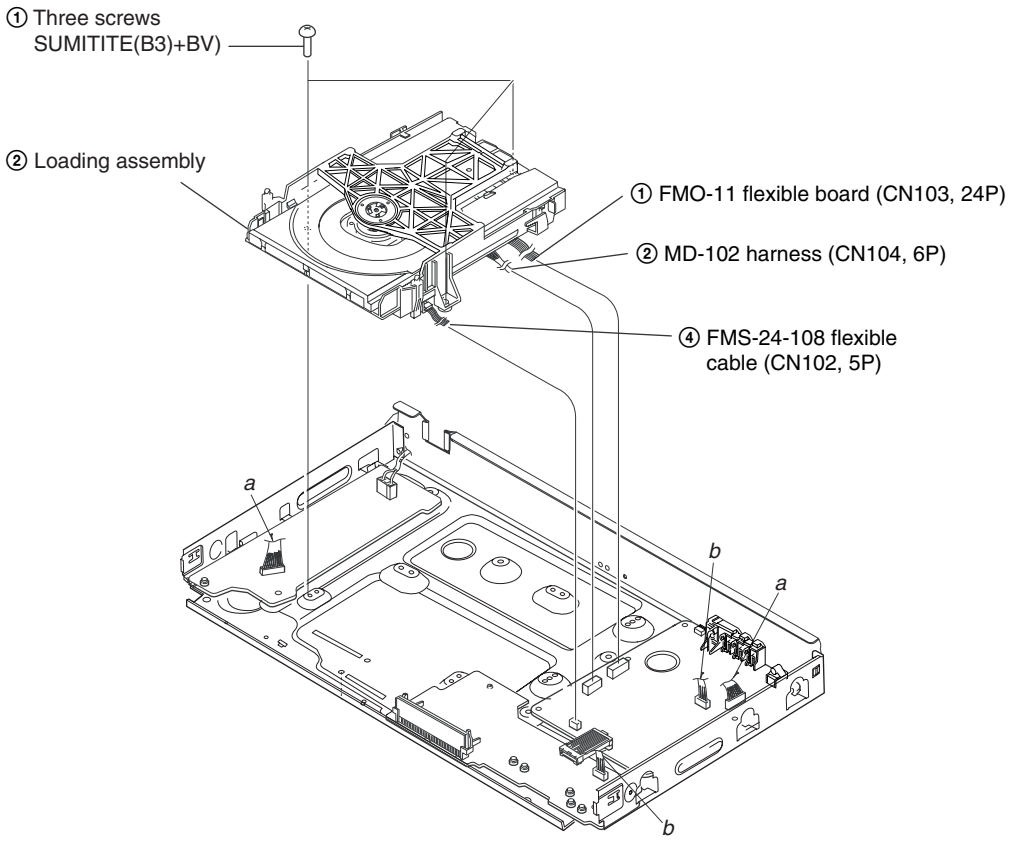
2-1. UPPER CASE



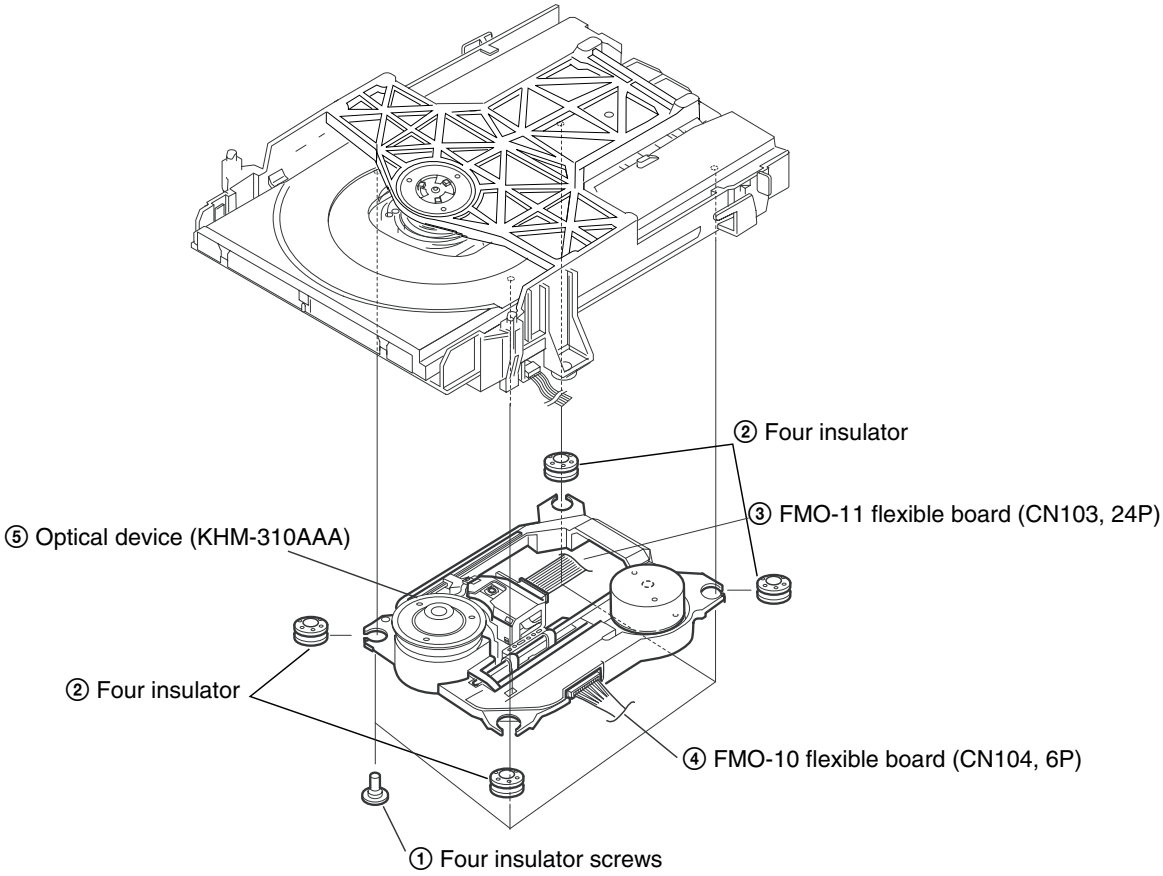
2-2. FRONT PANEL ASSEMBLY



2-3. LOADING ASSEMBLY



2-4. OPTICAL DEVICE (KHM-310AAA)

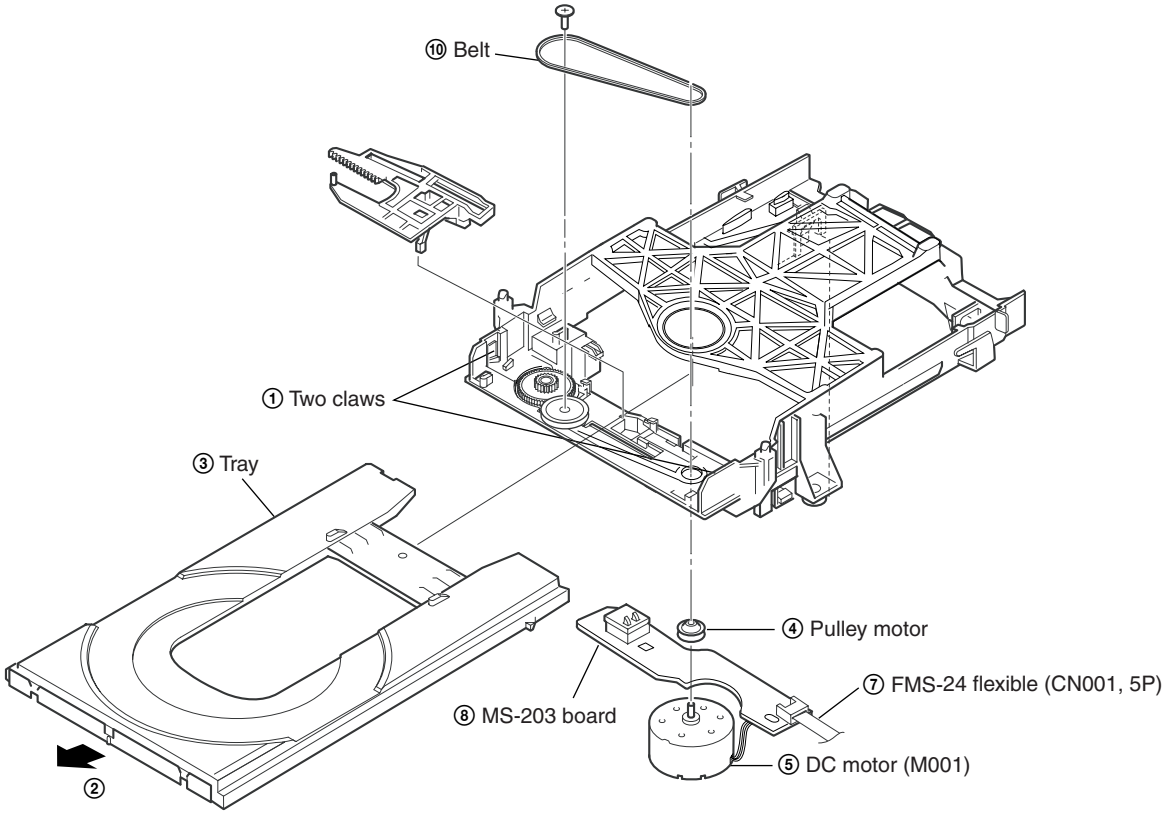

② Four insulator
③ FMO-11 flexible board (CN103, 24P)
⑤ Optical device (KHM-310AAA)
② Four insulator
④ FMO-10 flexible board (CN104, 6P)
① Four insulator screws

Caution Point on the Laser Diode:

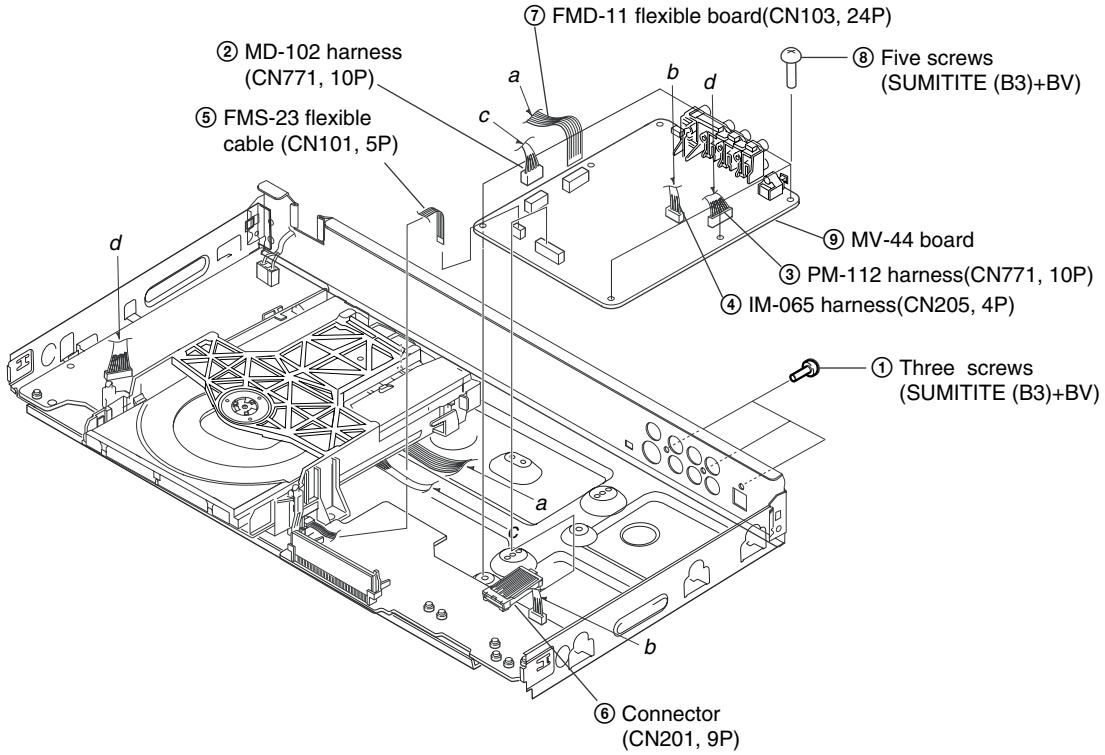
Laser Diode in the optical Device is very sensitive to Surge Current or ElectroStatic Discharge (ESD):

After take-out FMO-24 Flexible cable from CN103 of MV-044 board immediately ground FMO-24 Flexible cable pattern using short clip. Metal paper clip can be used as short clip.

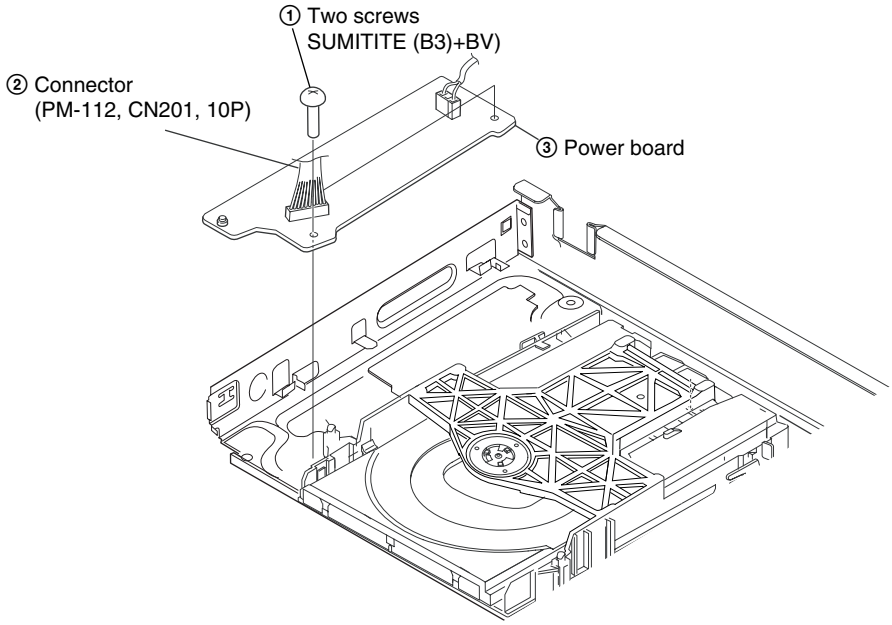
2-5. DC MOTOR and MS-203 BOARD



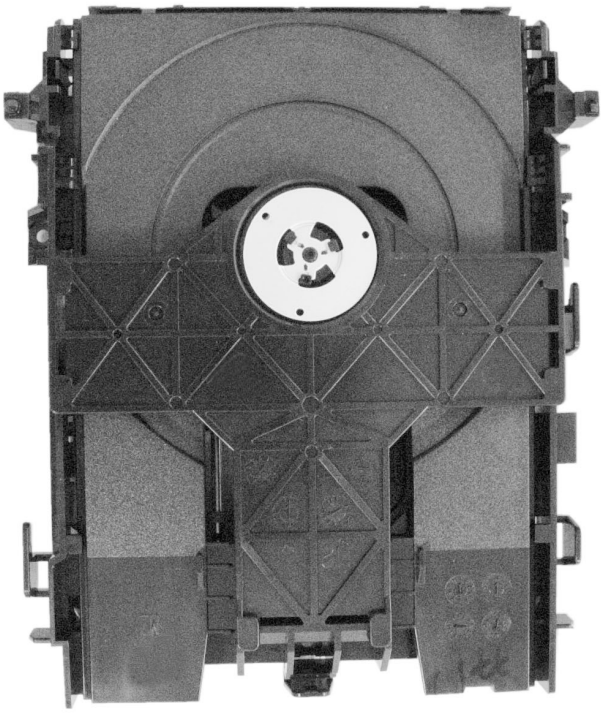
2-6. MV-044 BOARD



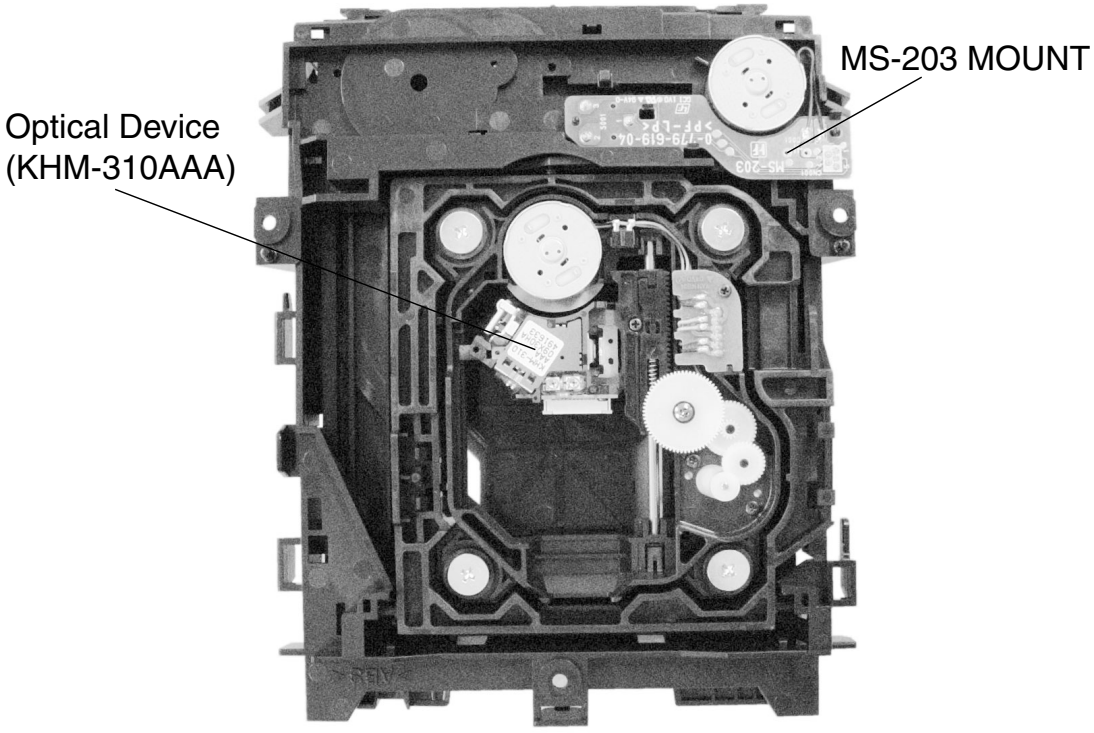
2-7. SWITCHING REGULATOR



2-8. INTERNAL VIEWS

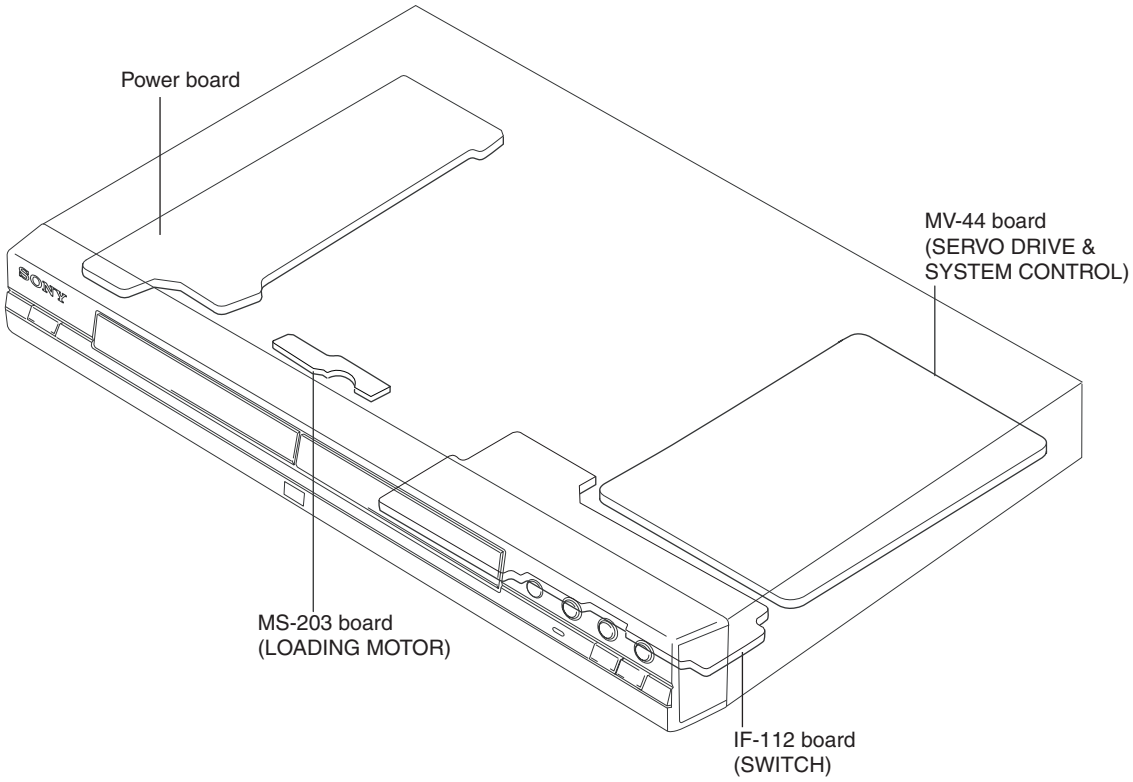


TOP VIEW



BOTTOM VIEW

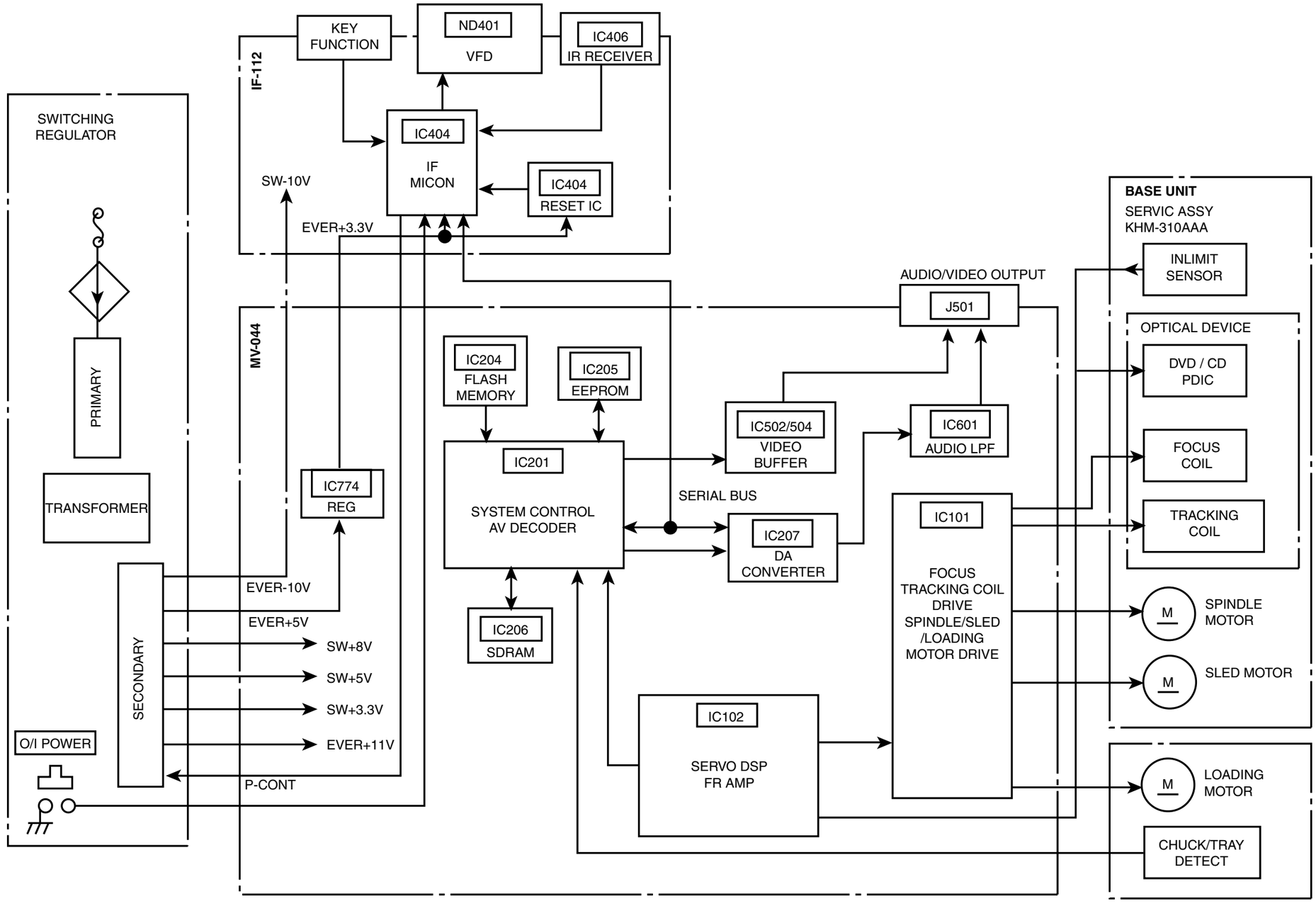
2-9. CIRCUIT BOARDS LOCATION



MEMO

SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM

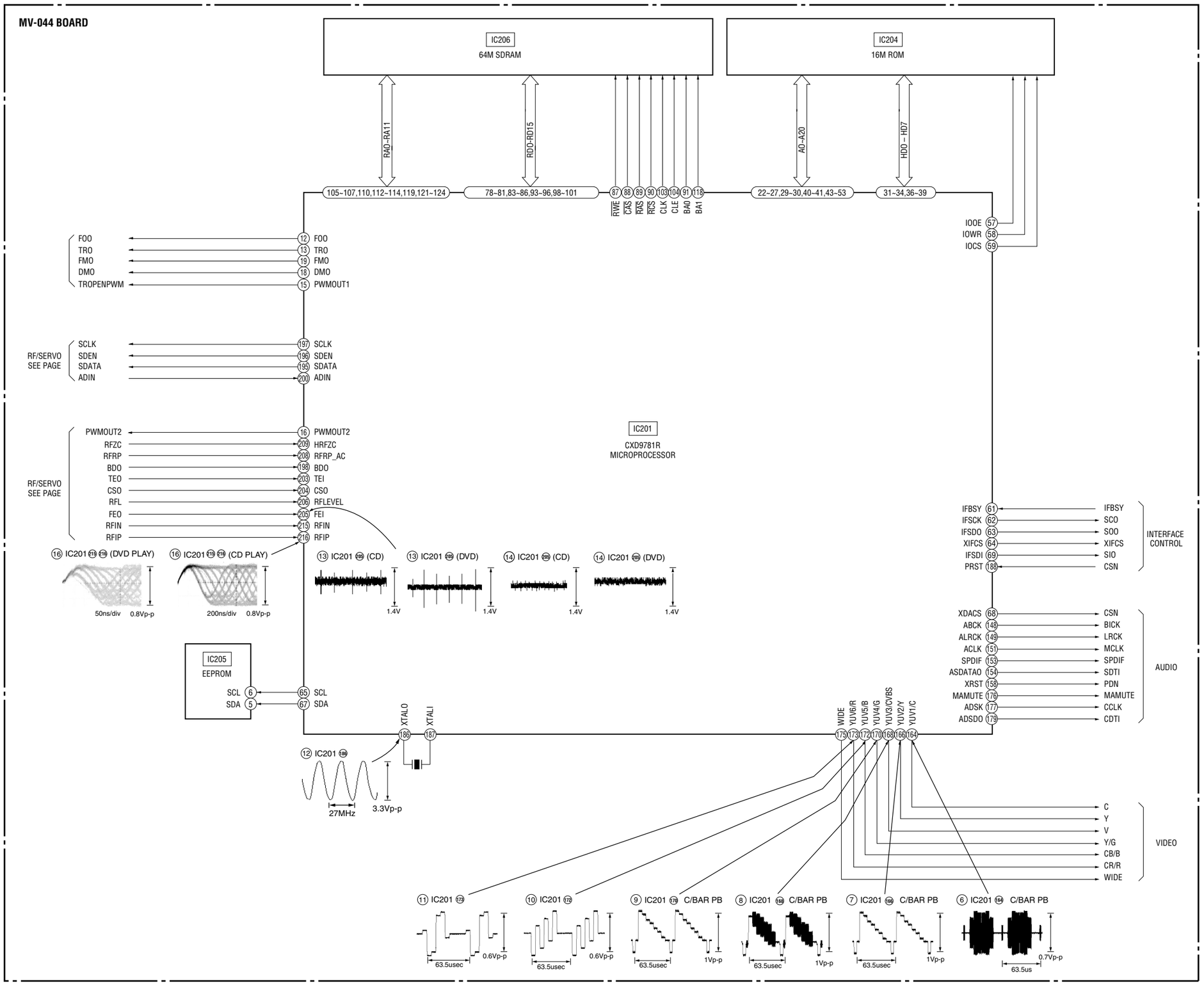


Notes:

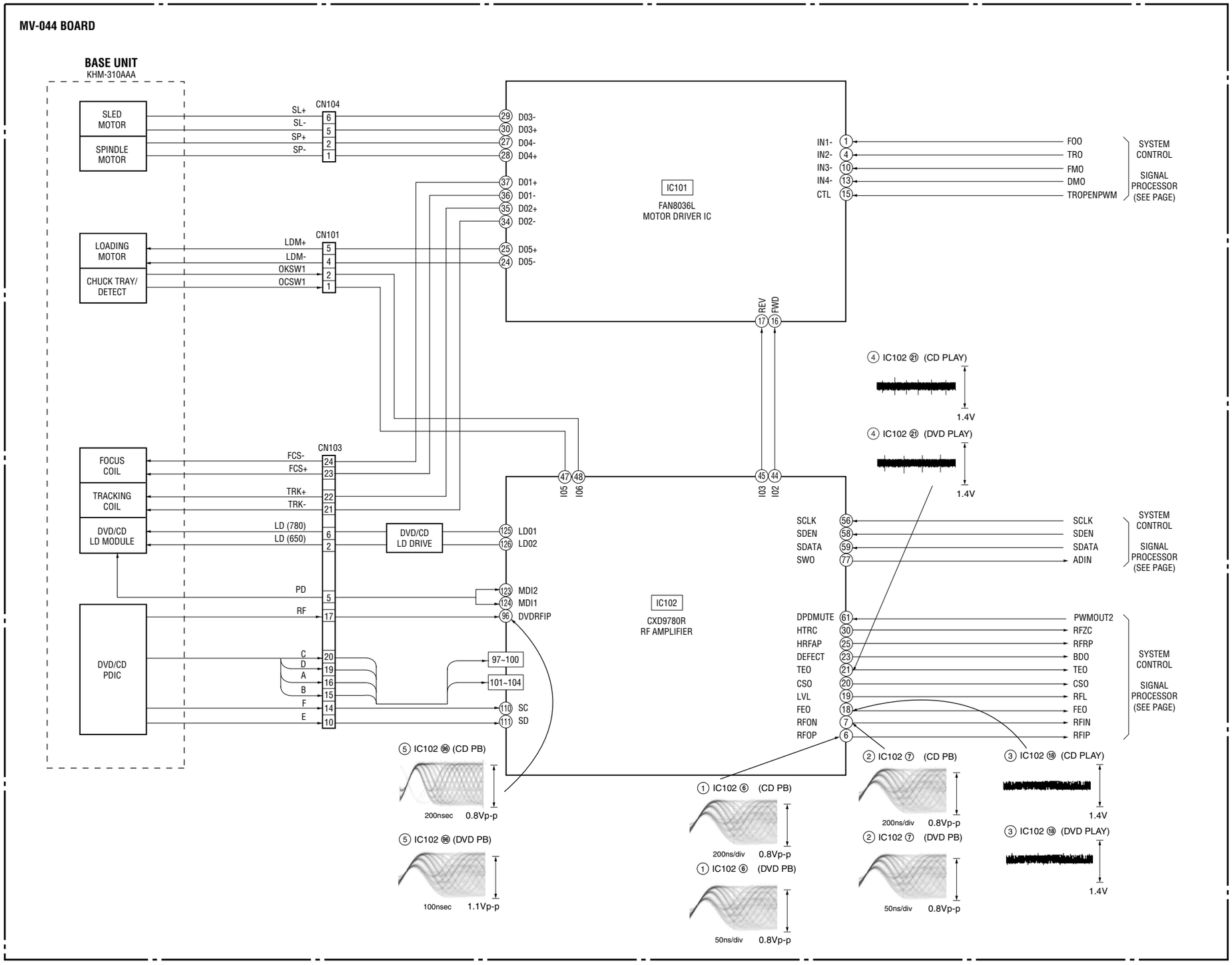
MV-44 mounted PWB must be replaced if IC205 (EEPROM IC) is damaged or not functioning.

The old MV-44 mounted PWB must be completely disposed.

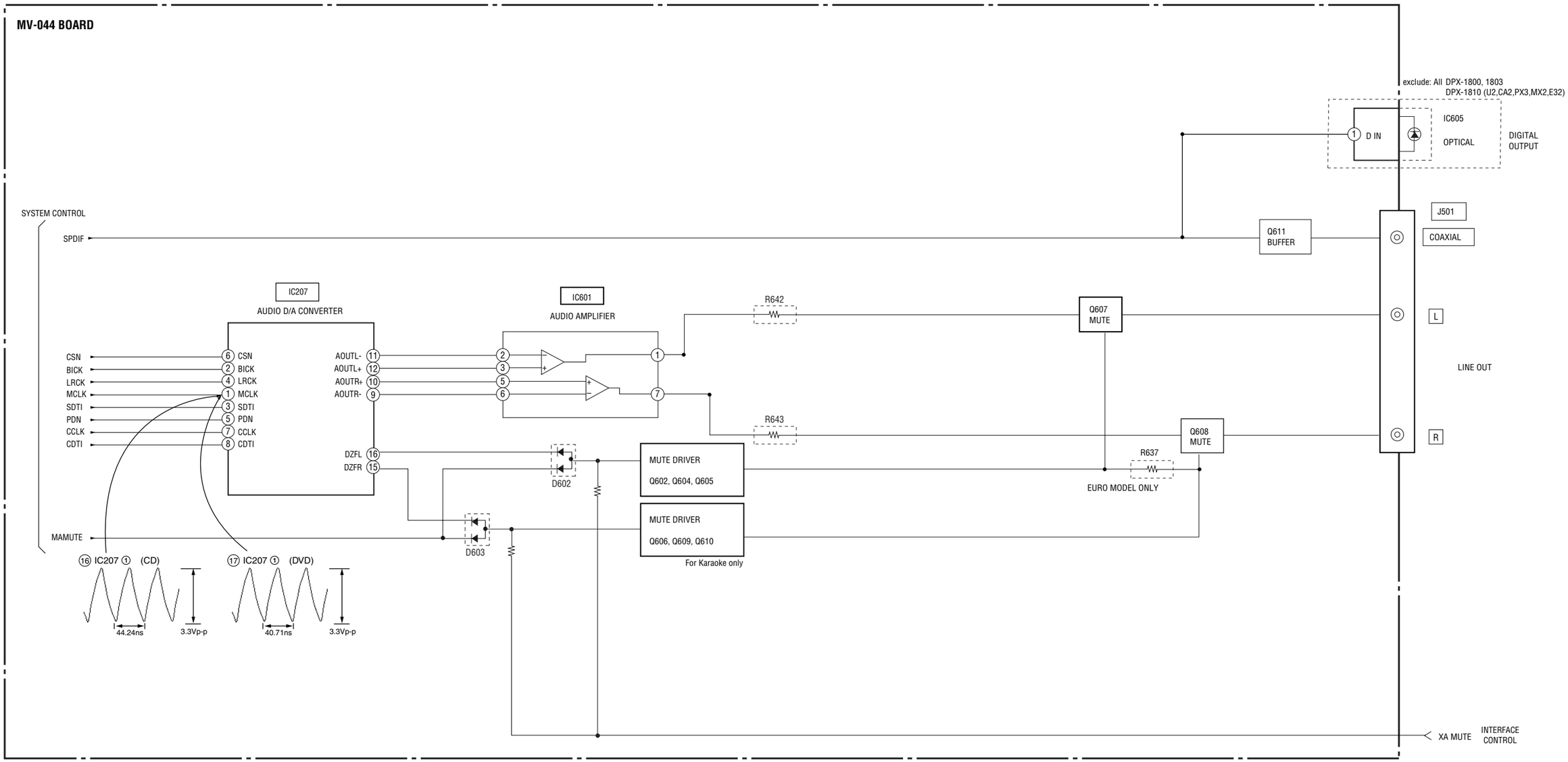
3-2. SYSTEM CONTROL/SIGNAL PROCESSOR BLOCK DIAGRAM



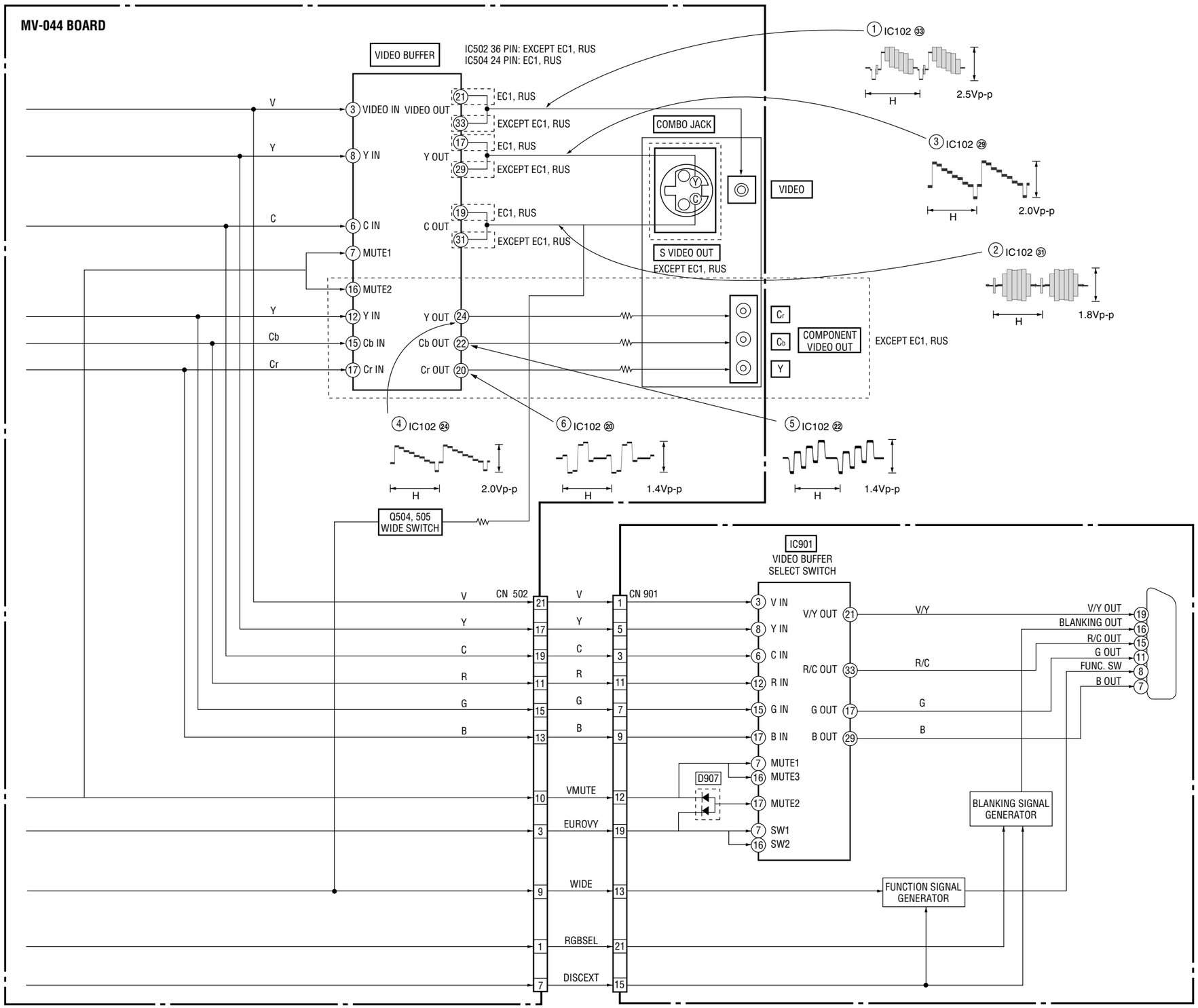
3-3. RF/SERVO BLOCK DIAGRAM



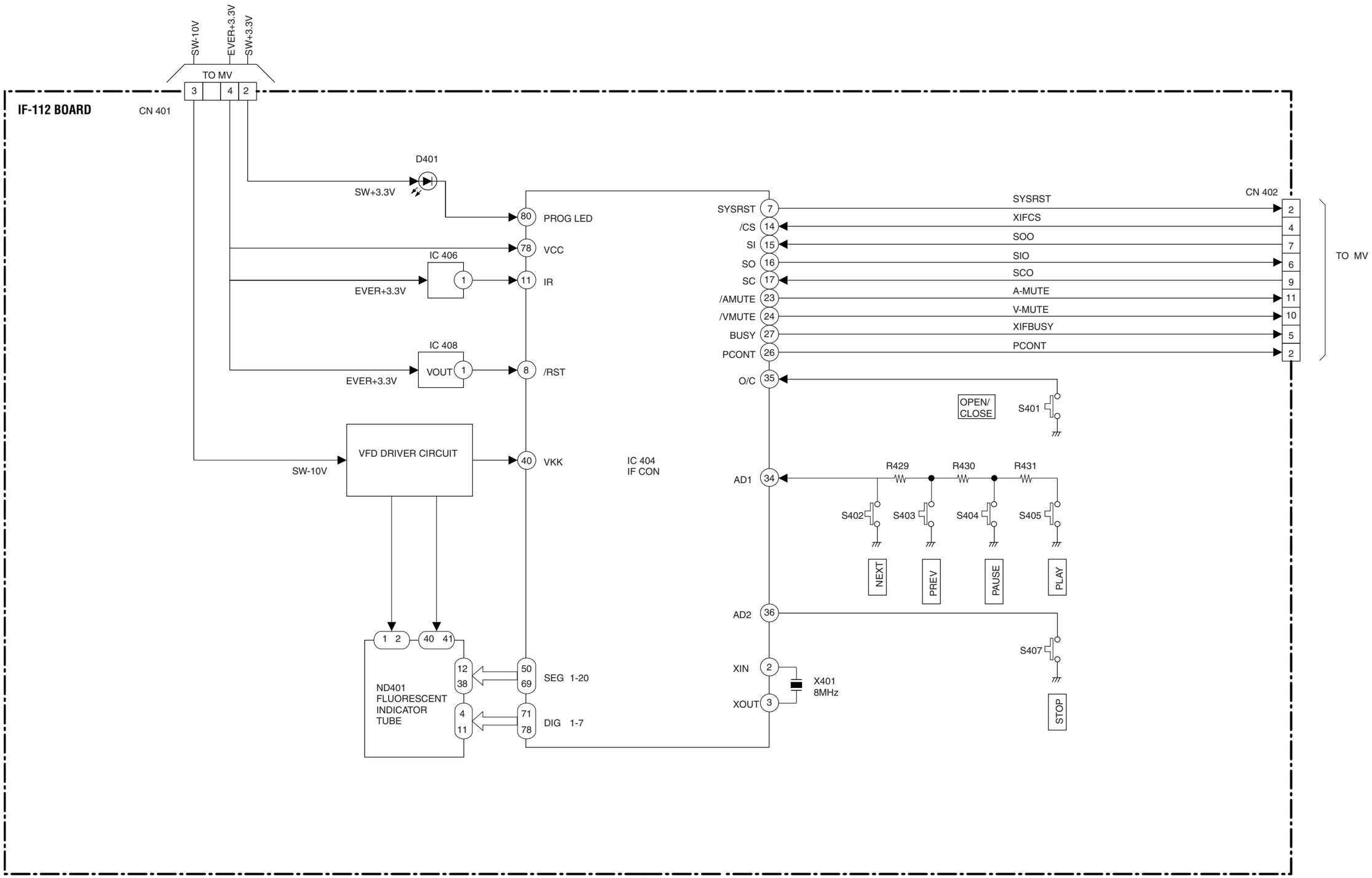
3-4. AUDIO BLOCK DIAGRAM



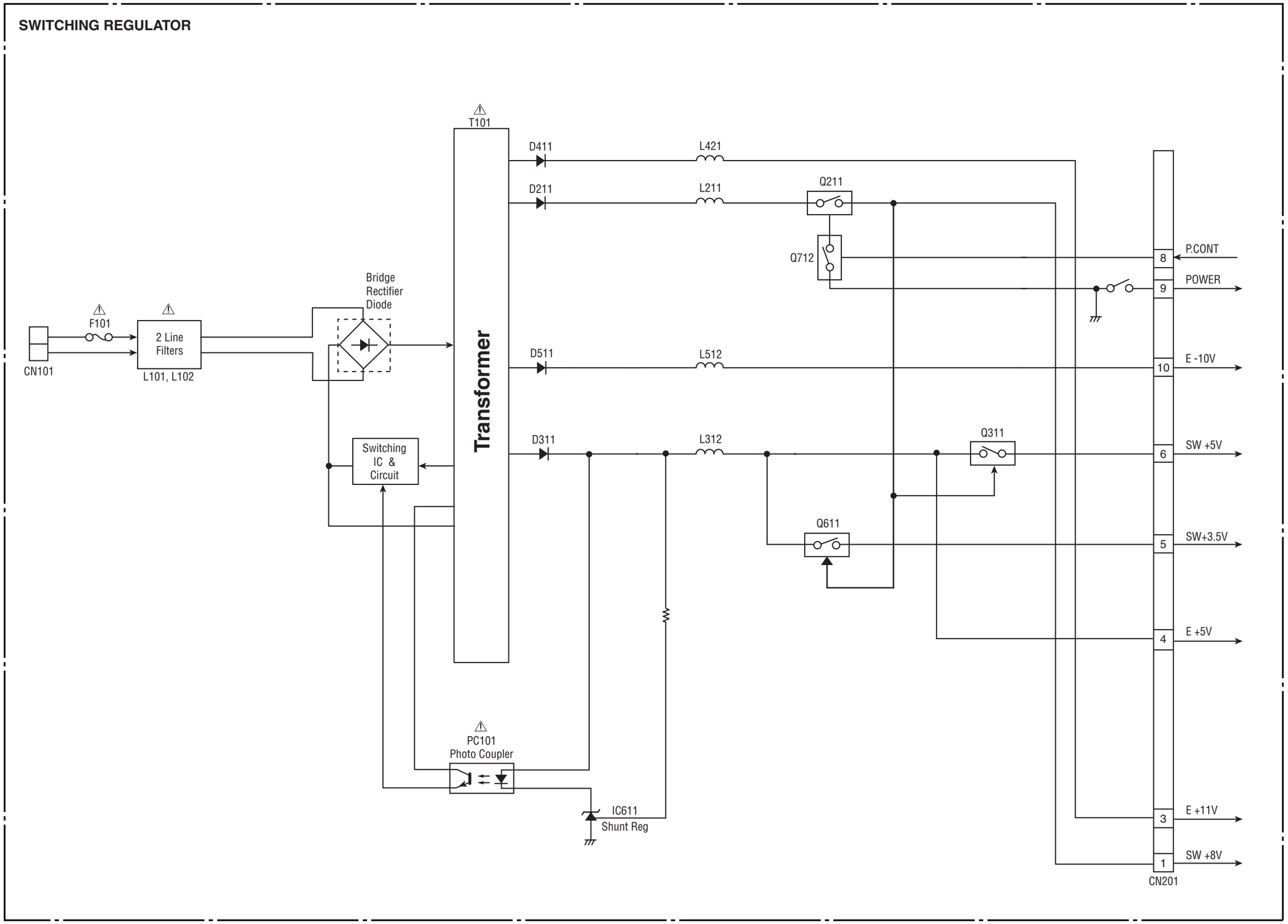
3-5. VIDEO BLOCK DIAGRAM



3-6. INTERFACE CONTROL BLOCK DIAGRAM

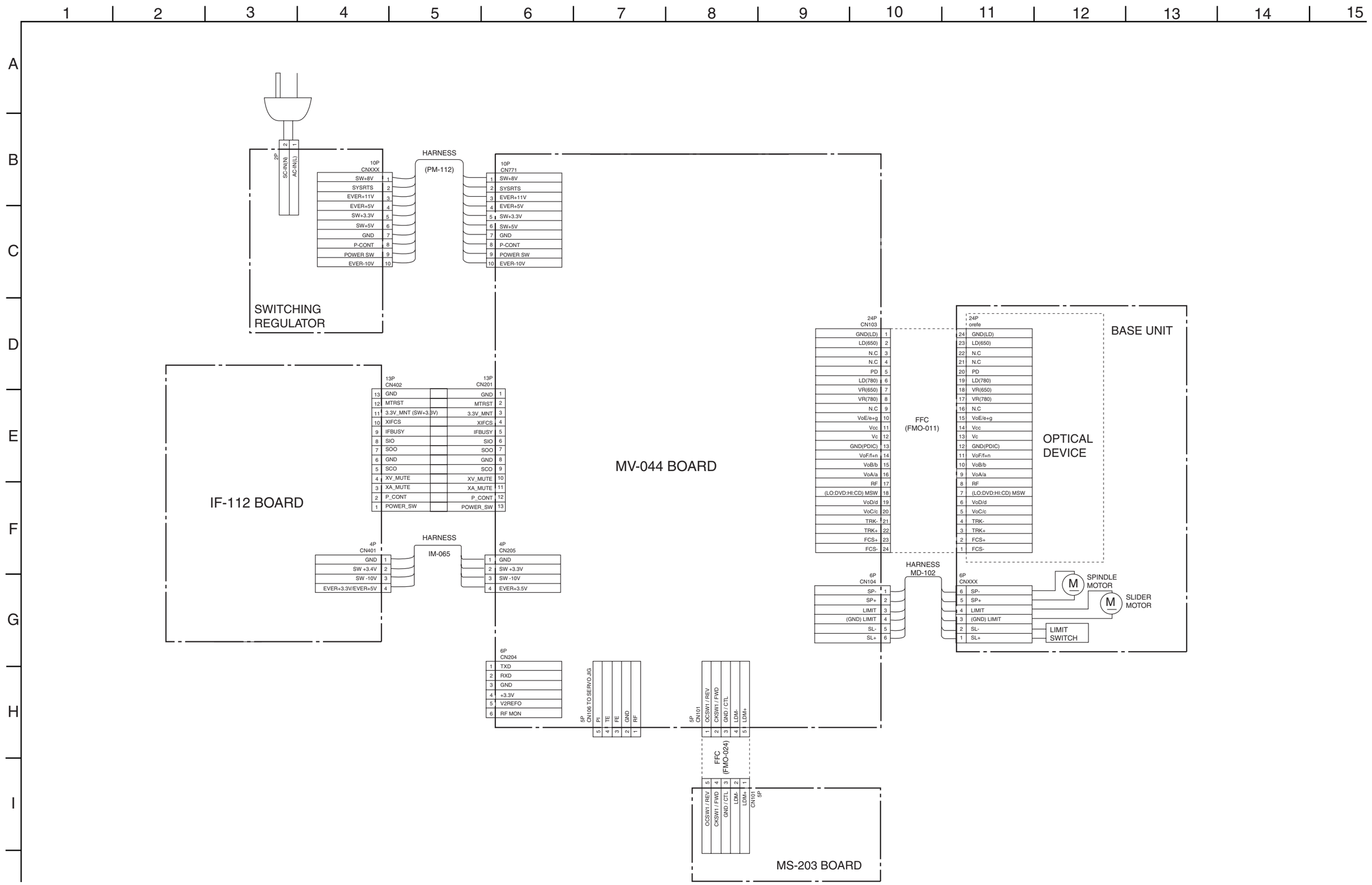


3-7. POWER BLOCK DIAGRAM



SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



FRAME SCHEMATIC DIAGRAM

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block)

For printed wiring boards:

- ○—— : indicates a lead wire mounted on the component side.
- •—— : indicates a lead wire mounted on the printed side.
- ○ : Through hole.
- ▭ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side A)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side B)	Parts on the parts face side seen from the parts face are indicated.

- Abbreviation
  - CA2 : Canada model
  - PX3 : PX model
  - MX2 : Mexico model
  - E32 : Latin model
  - BR4 : Brazil model
  - HK2 : Hong Kong model
  - SP6 : GA model
  - TW1 : Taiwan model
  - KR2 : Korea model
  - EA4 : Saudi Arabia model
  - ME2 : Middle East model
  - ME5 : India model
  - AU2 : Australia model
  - CN6 : China model
  - AR2 : Argentina model
  - U2 : US model
  - IR2 : Iran model

For schematic diagrams:

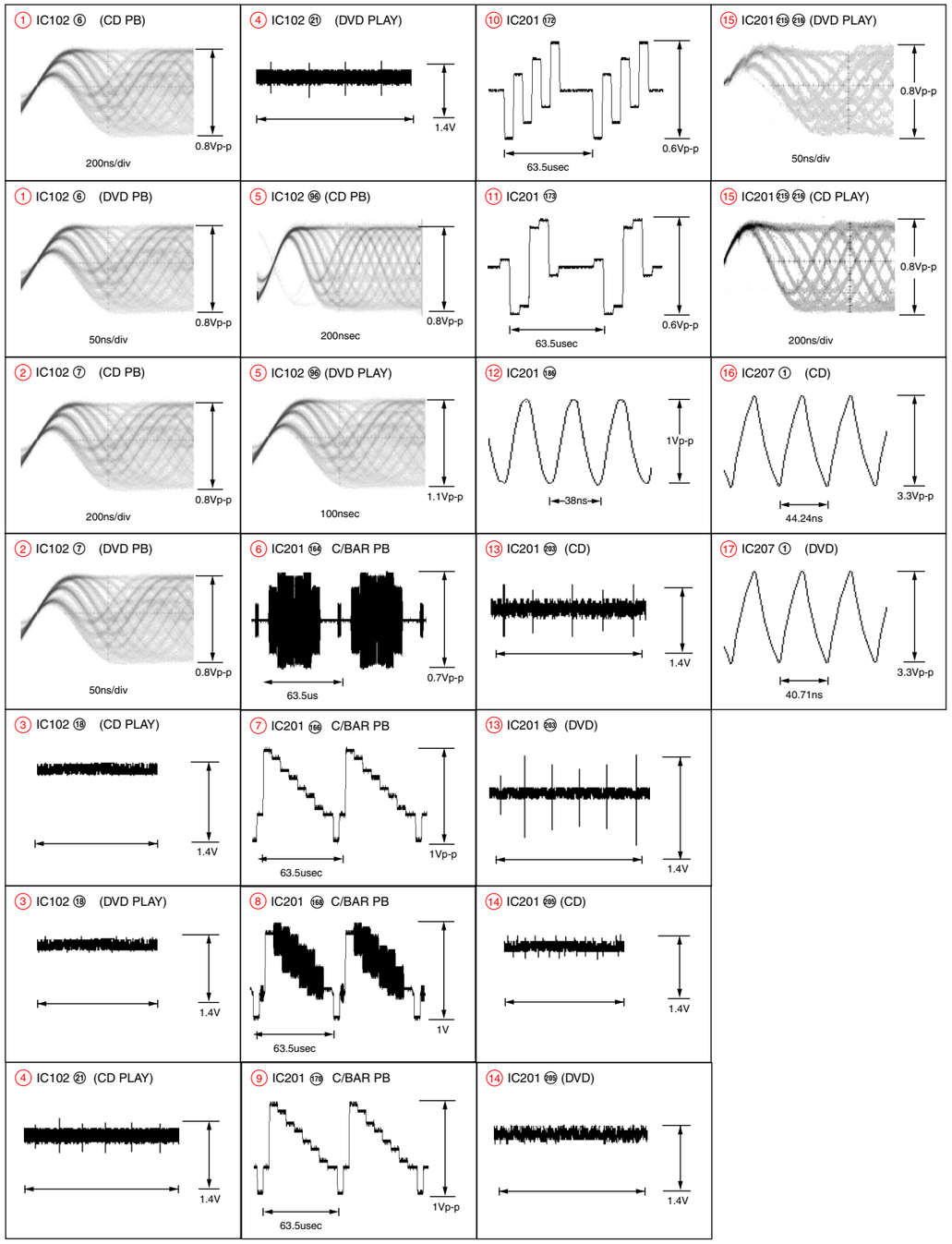
- All capacitors are in µF unless otherwise noted. pF : µµF. 50V or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W (Chip resistors : 1/10W) un-less otherwise specified.
  kΩ = 1000Ω, MΩ = 1000kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : non flammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair.
- B+ : B+ Line.
- B– : B– Line.
- Circled numbers refer to waveforms.
- Voltages are dc between measurement point.
- Readings are taken with a color-bar signal on DVD reference disc and when playing CD reference disc.
- Readings are taken with a digital multimeter (DC 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

4-3. WAVEFORM

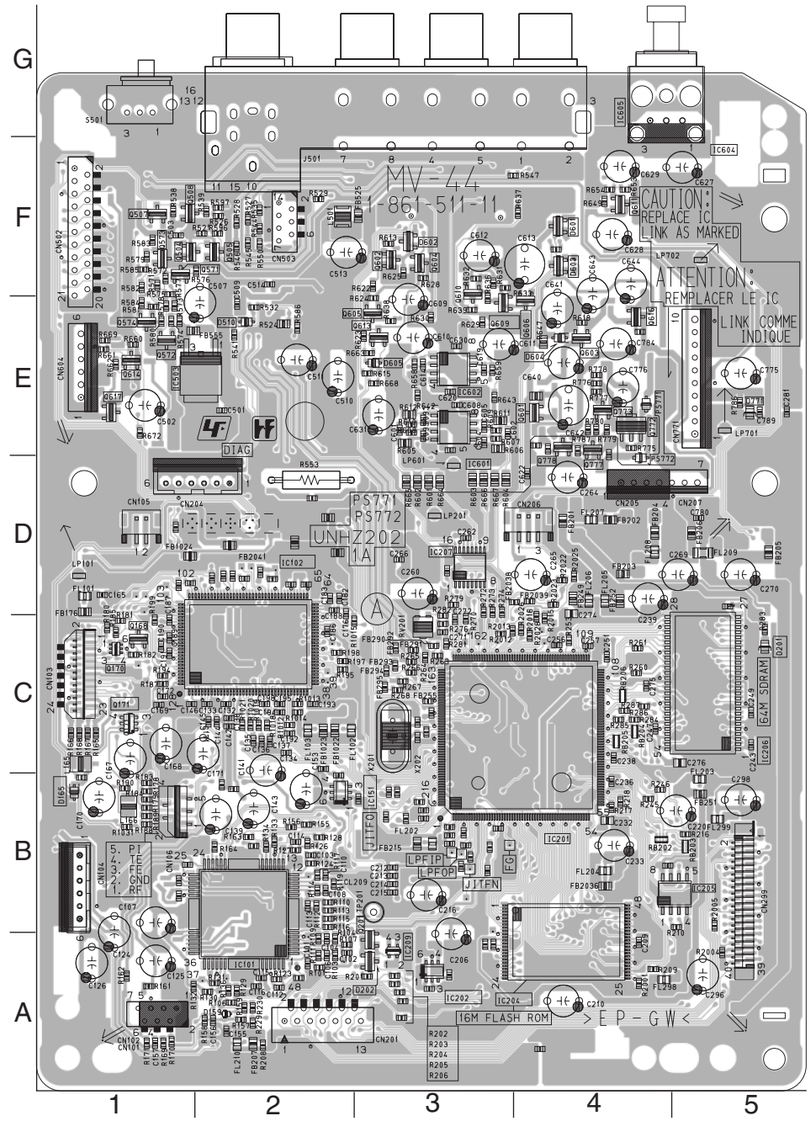
MV-044 BOARD



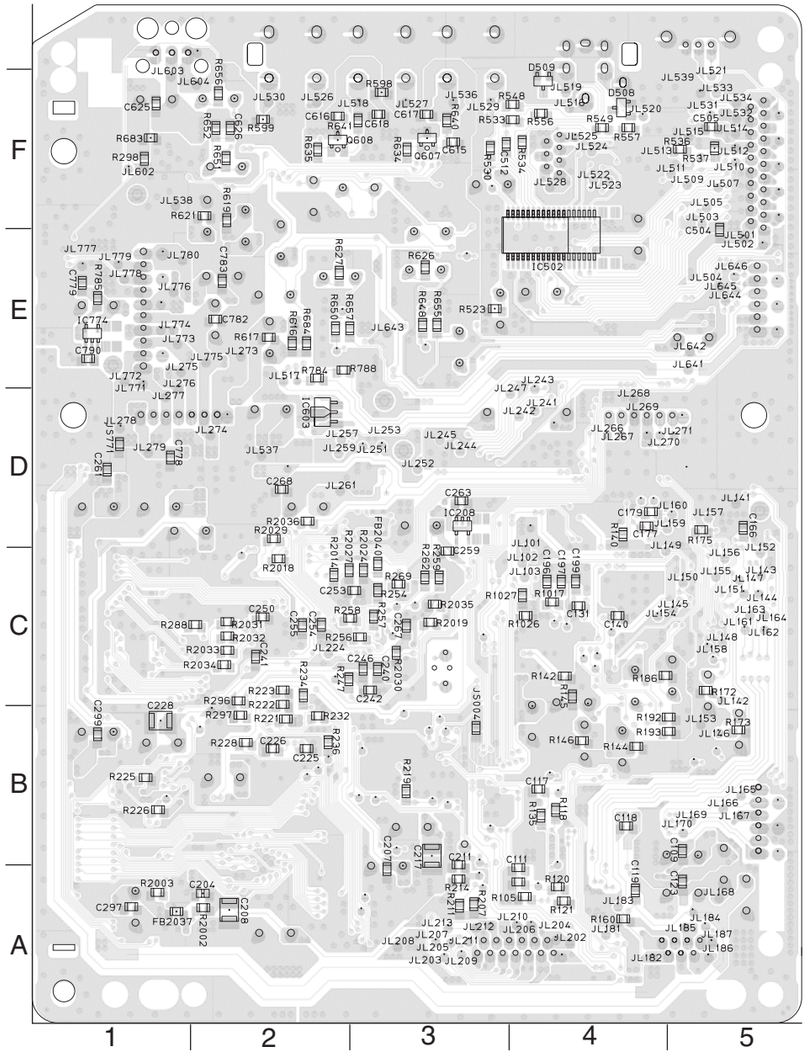
MV-044 (DRIVE, CPU, SERVO-DSP, AVDEC, VIDEO, AUDIO, PS THROUGH) PRINTED WIRING BOARD

• : Uses unleaded solder.

MV-044 BOARD SIDE A

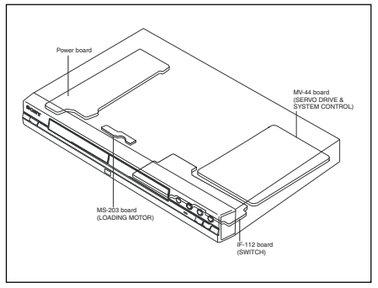


MV-044 BOARD SIDE B



MV-044 BOARD

A SIDE		B SIDE	
IC101	A-2	IC208	D-3
IC102	D-2	IC502	E-4
IC151	B-3	IC603	D-2
IC201	B-4	IC774	E-1
IC202	A-3		
IC204	A-3	Q607	F-3
IC205	B-5	Q608	F-3
IC206	C-5		
IC207	D-3	D508	F-4
IC209	A-3	D509	F-4
IC503	E-1		
IC601	D-3		
IC602	E-3		
IC604	F-5		
IC605	G-4		
Q168	C-1		
Q170	C-1		
Q171	C-1		
Q201	B-3		
Q504	E-1		
Q505	F-2		
Q507	F-1		
Q508	F-2		
Q571	F-2		
Q572	E-1		
Q573	F-1		
Q574	E-1		
Q601	E-4		
Q602	F-3		
Q603	E-4		
Q604	F-3		
Q605	E-3		
Q606	E-4		
Q609	E-3		
Q610	E-3		
Q611	F-4		
Q613	E-3		
Q614	E-1		
Q616	E-4		
Q617	E-1		
Q772	E-4		
Q773	E-4		
Q777	D-4		
Q778	D-4		
D165	B-1		
D201	C-5		
D202	A-3		
D510	E-2		
D601	F-4		
D602	F-3		
D603	F-4		
D604	F-4		
D605	E-3		
D771	E-5		



For printed wiring board

There are a few cases that the part printed on this diagram isn't mounted in this model.

DRIVE, CPU, SERVO-DSP, AVDEC, VIDEO, AUDIO, PS THROUGH

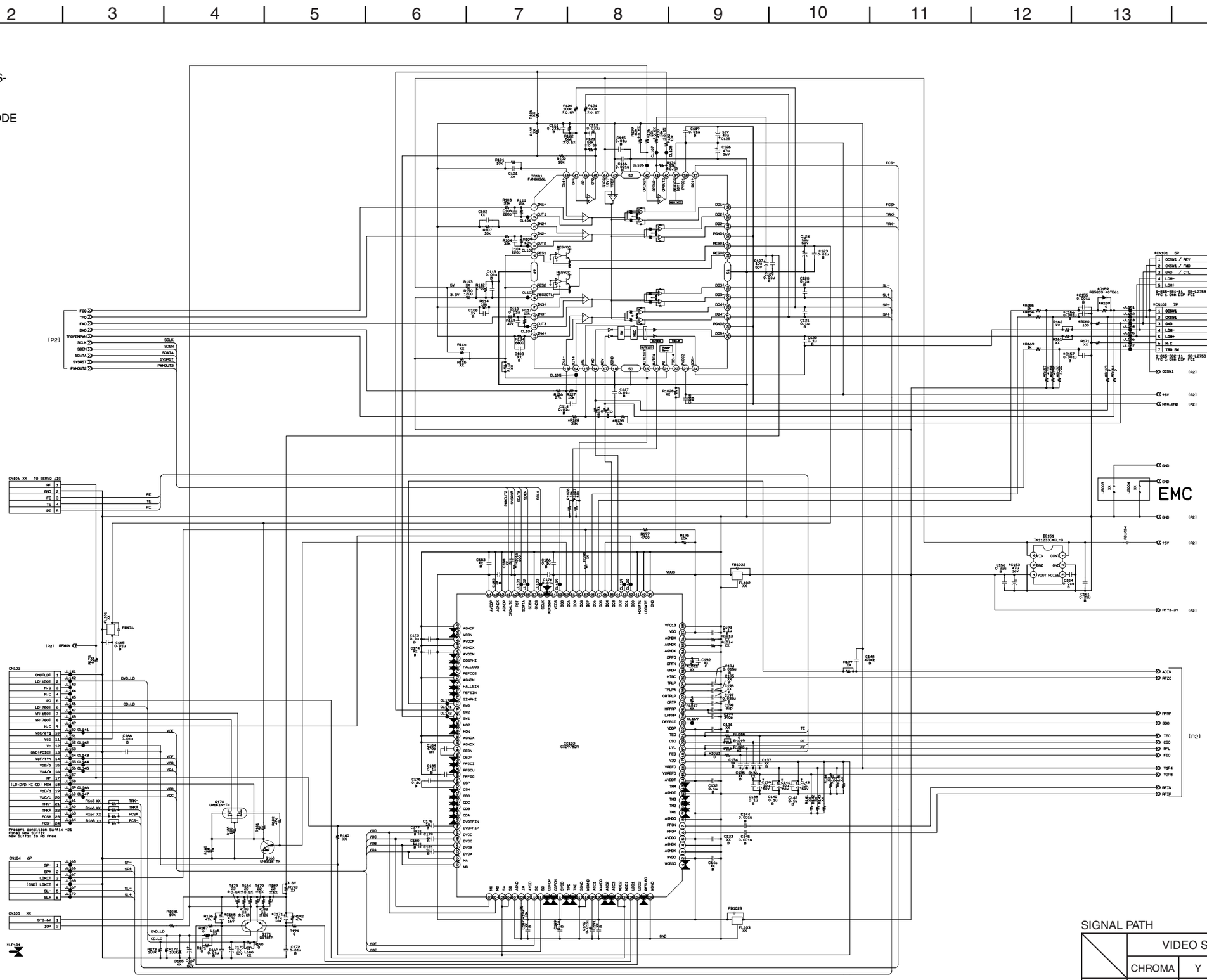
MV-044

For Schematic Diagram

- Refer to page 4-5 for printed wiring board of MV-044 board.
- Refer to page 4-4 for waveform

MV-044 BOARD (1/5)
DRIVE
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



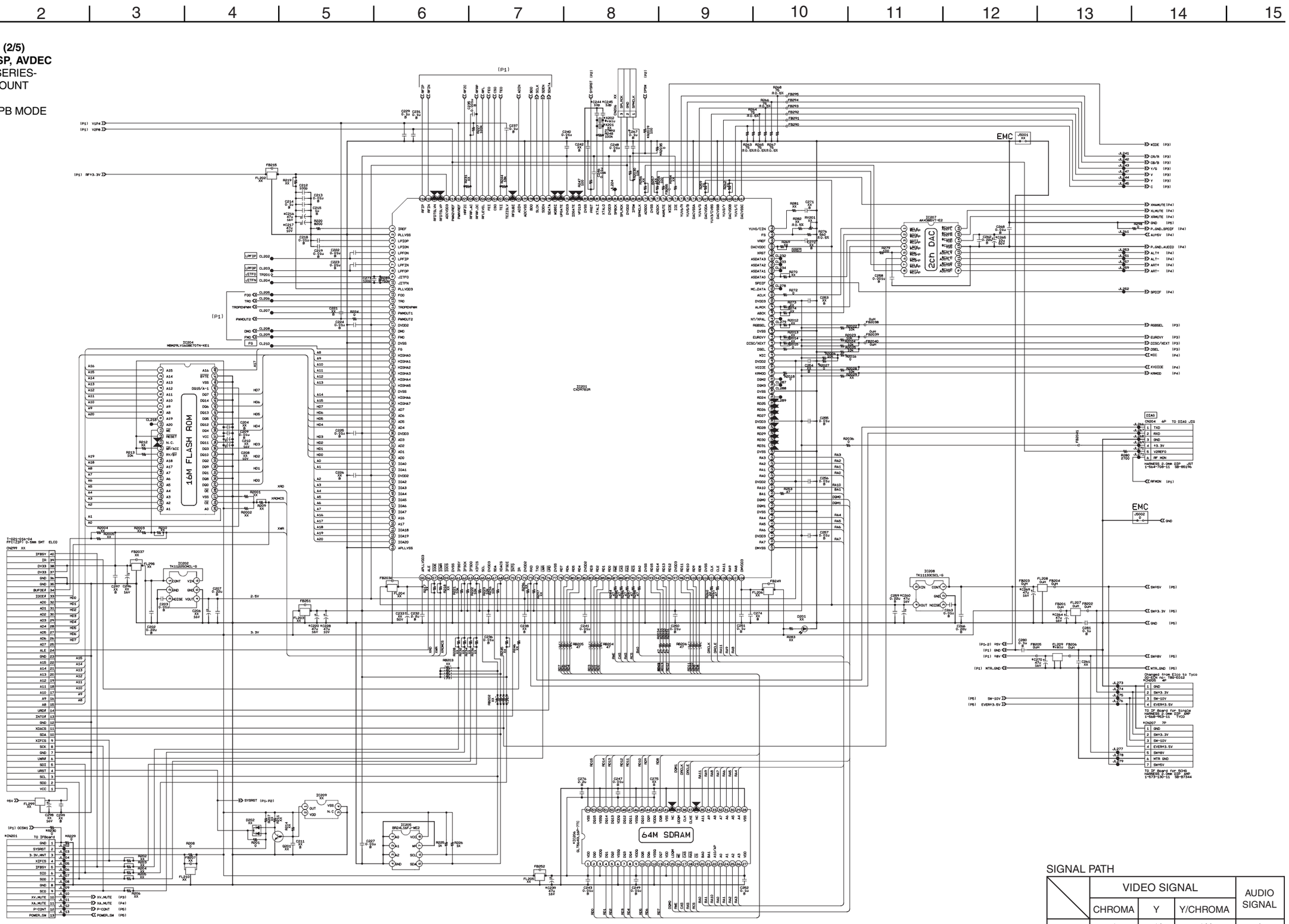
DRIVE
MV-044 (1/5)

For Schematic Diagram

- Refer to page 4-5 for printed wiring board of MV-044 board.
- Refer to page 4-4 for waveform

MV-044 BOARD (2/5)
CPU, SERVO-DSP, AVDEC
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



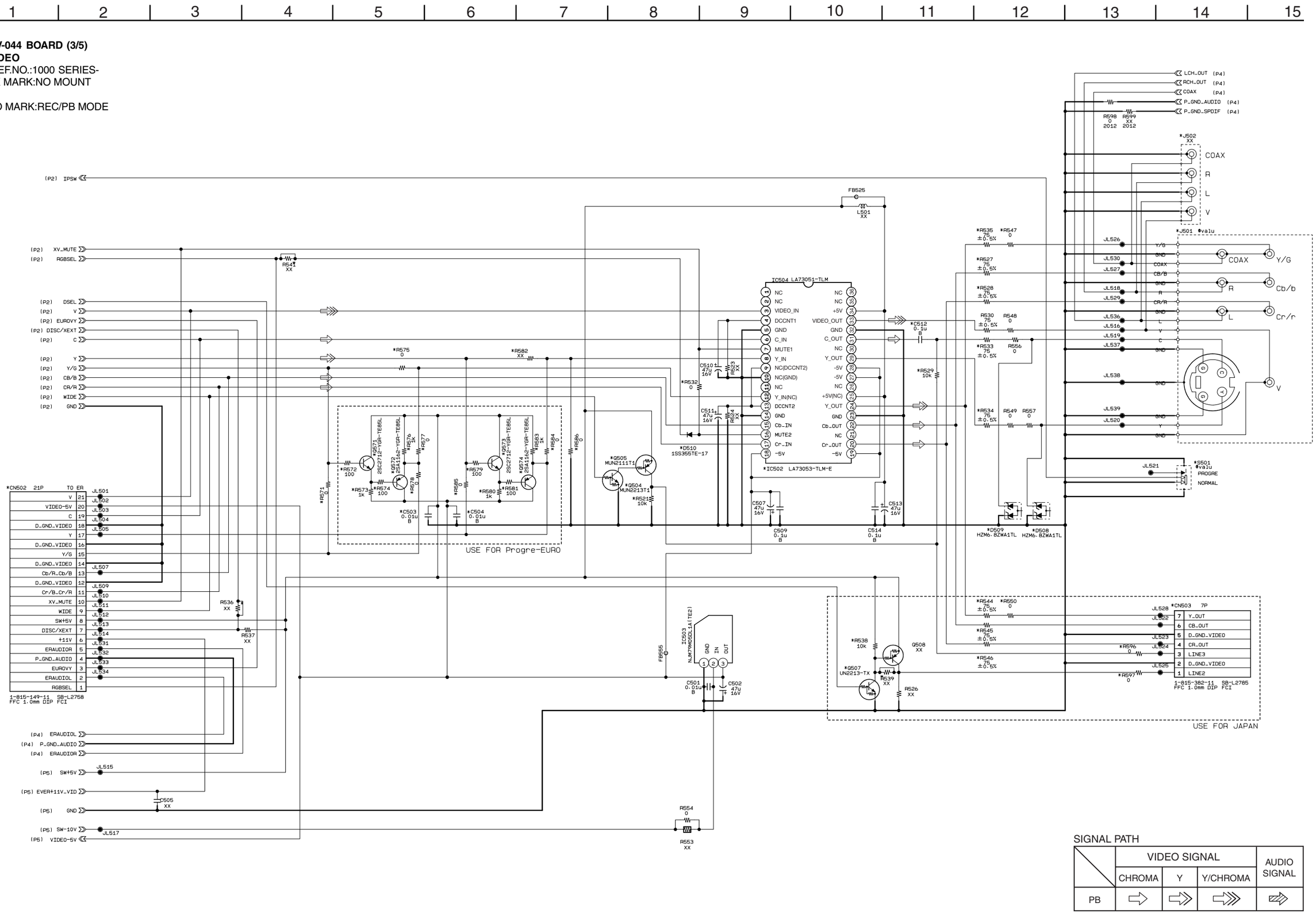
CPU, SERVO-DSP, AVDEC
MV-044 (2/5)

For Schematic Diagram

- Refer to page 4-5 for printed wiring board of MV-044 board.
- Refer to page 4-4 for waveform

MV-044 BOARD (3/5)
VIDEO
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



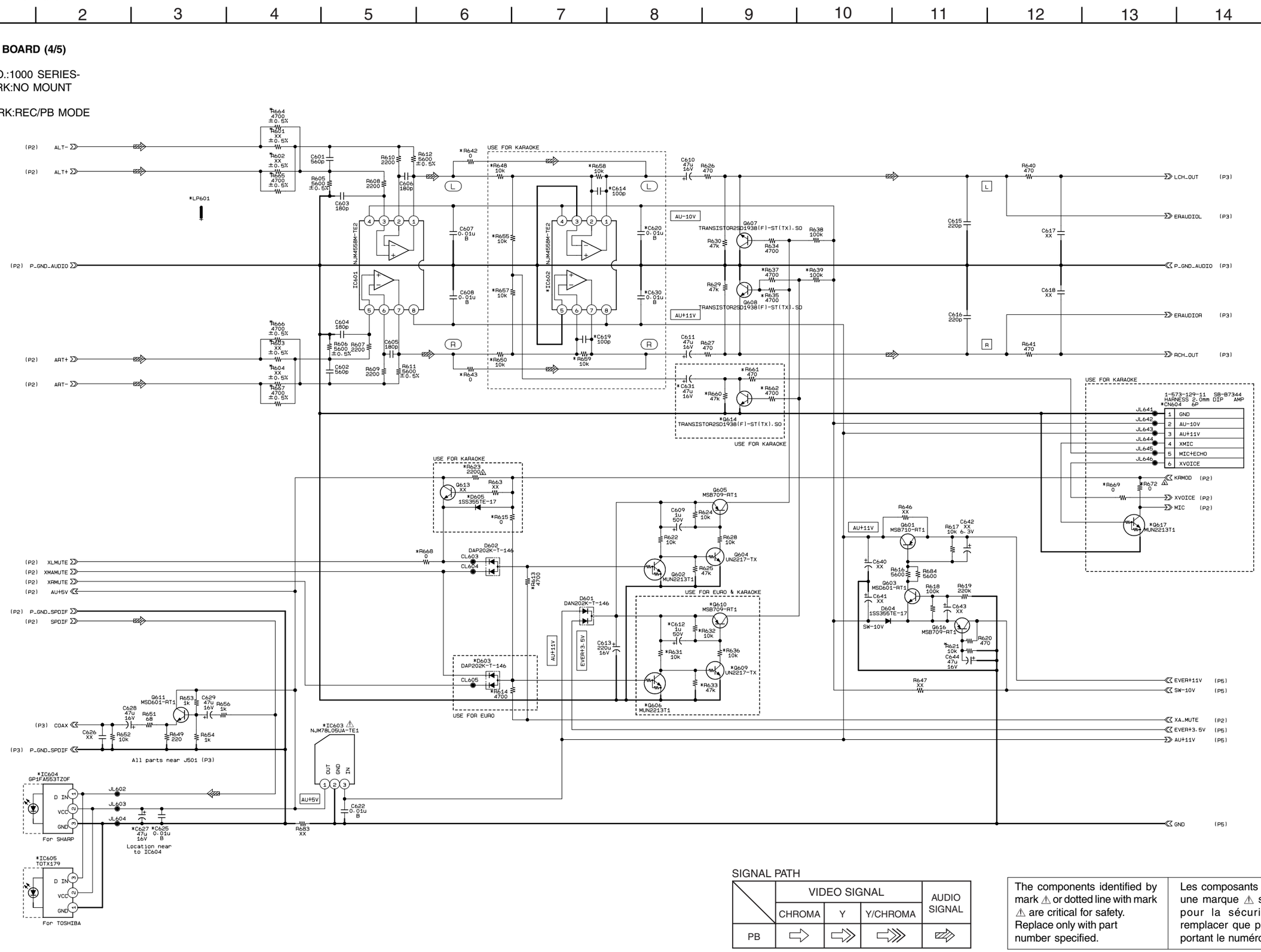
VIDEO
MV-044 (3/5)

For Schematic Diagram

- Refer to page 4-5 for printed wiring board of MV-044 board.
- Refer to page 4-4 for waveform

MV-044 BOARD (4/5)
AUDIO
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
PB	⇨	⇨	⇛	⇨

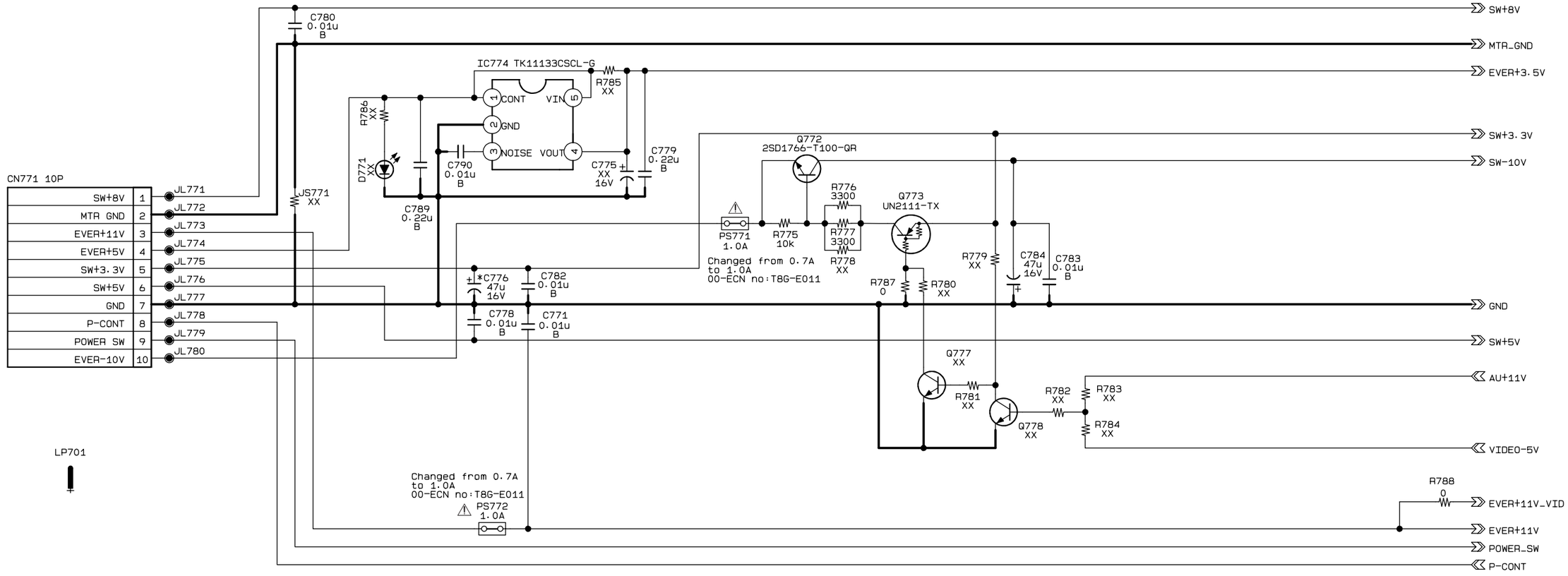
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

For Schematic Diagram

• Refer to page 4-5 for printed wiring board of MV-044 board.
• Refer to page 4-4 for waveform

MV-044 BOARD (5/5)
PS THROUGH
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
PB	⇨	⇨	⇨	⇨

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

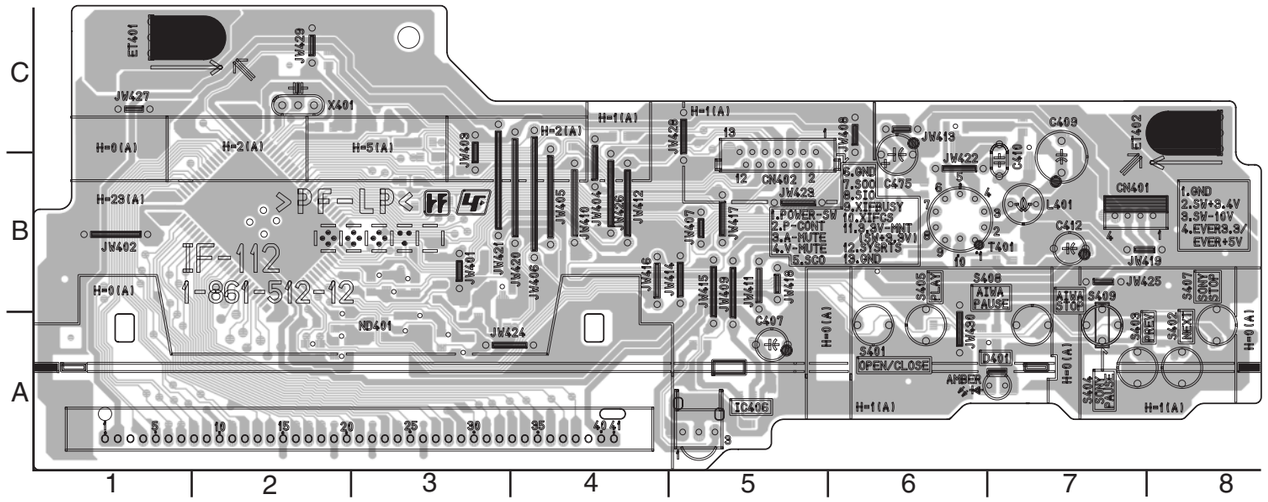
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PS THROUGH
MV-044 (5/5)

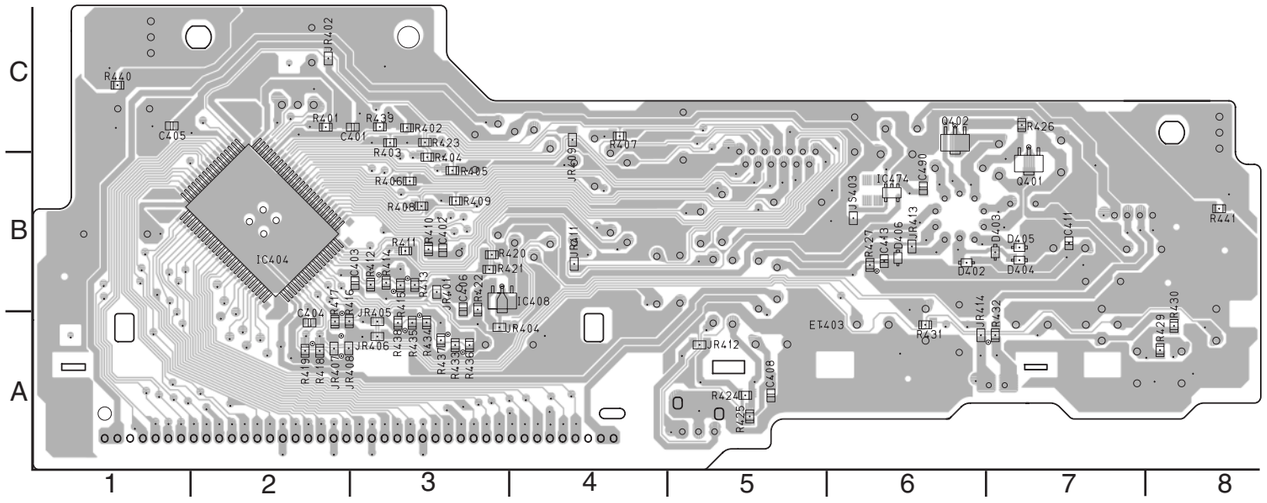
IF-112 (INTERFACE) PRINTED WIRING BOARD

• : Uses unleaded solder.

IF-112 BOARD A SIDE

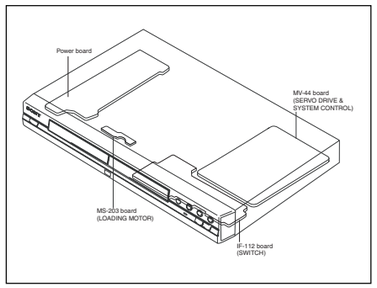


IF-112 BOARD B SIDE



For printed wiring board

There are a few cases that the part printed on this diagram isn't mounted in this model.



IF-112 BOARD

A SIDE

IC406 A-5
D401 A-7

B SIDE

IC404 B-2
IC408 B-4
IC474 B-6

Q401 B-7
Q402 C-6

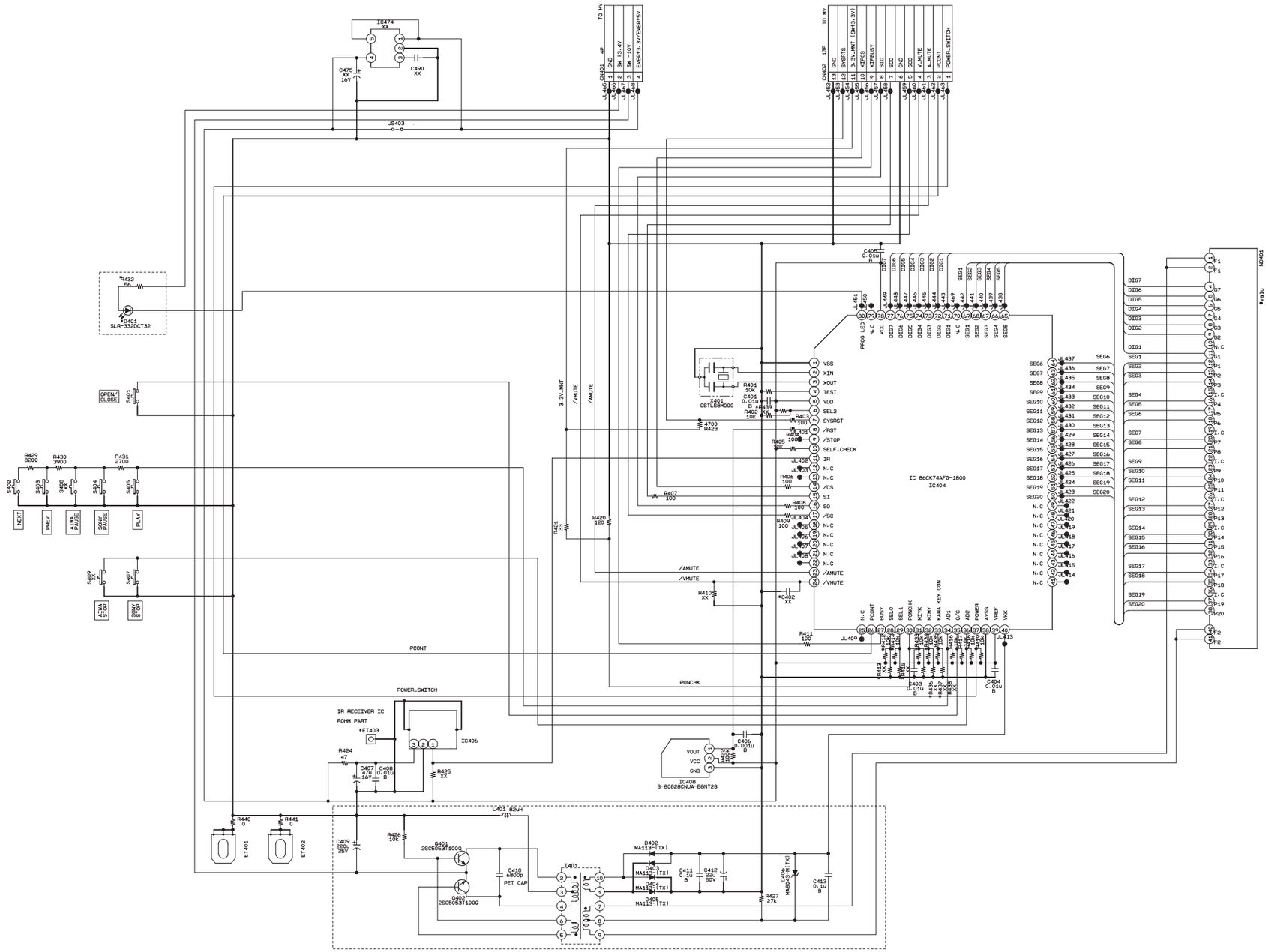
D402 B-6
D403 B-7
D404 B-7
D405 B-7
D406 B-6

For Schematic Diagram

• Refer to page 4-17 for printed wiring board of IF-112 board.

IF-112 BOARD
INTERFACE
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:PB MODE
MARKED:MOUNT TABLE

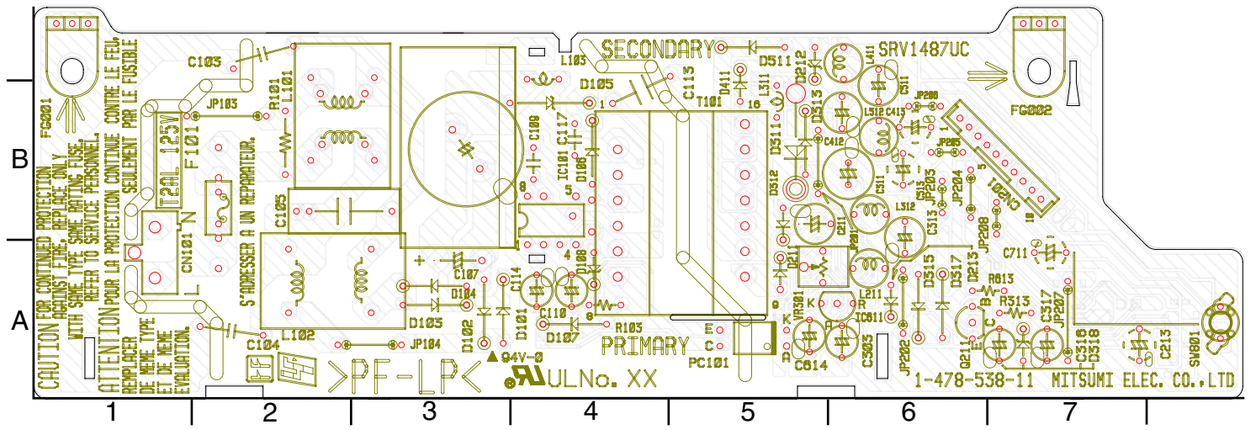


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

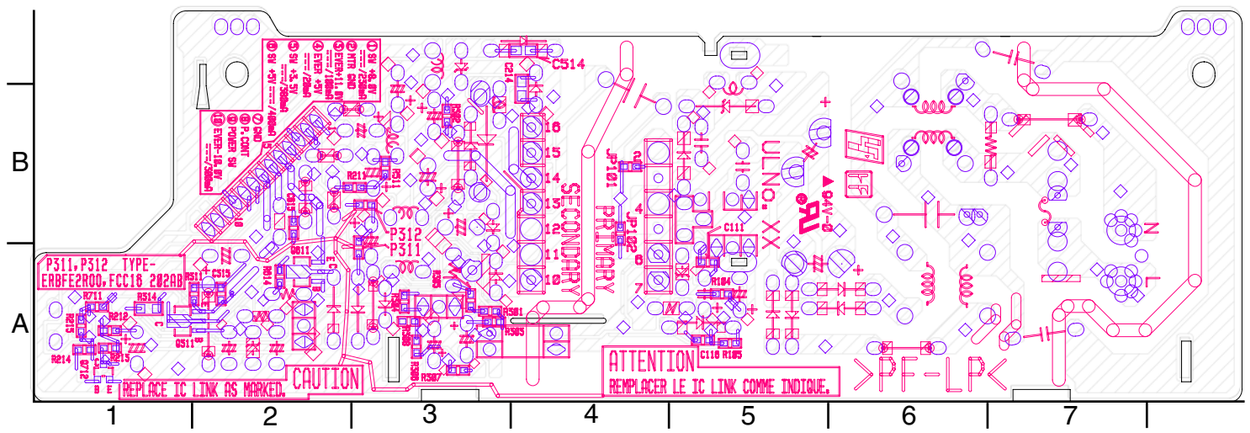
POWER BLOCK (SRV1487UC) PRINTED WIRING BOARD

• : Uses unleaded solder.

POWER BOARD (SRV1487UC) (SIDE A)
(US, CND, MX)

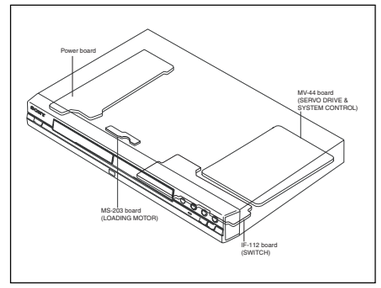


POWER BOARD (SRV1487UC) (SIDE B)
(US, CND, MX)



For printed wiring board

There are a few cases that the part printed on this diagram isn't mounted in this model.



POWER BOARD (SRV1487UC)

A SIDE

IC101 B-4
IC611 A-6

Q211 A-6

D101 A-4
D102 A-3
D103 A-3
D104 A-3
D105 B-4
D106 B-4
D107 A-4
D108 A-4
D211 A-5
D212 C-5
D213 A-6
D311 B-5
D312 B-5
D313 B-5
D315 A-6
D317 A-6
D318 A-7
D411 B-5
D511 C-5

B SIDE

Q311 A-1
Q611 A-2
Q712 A-1

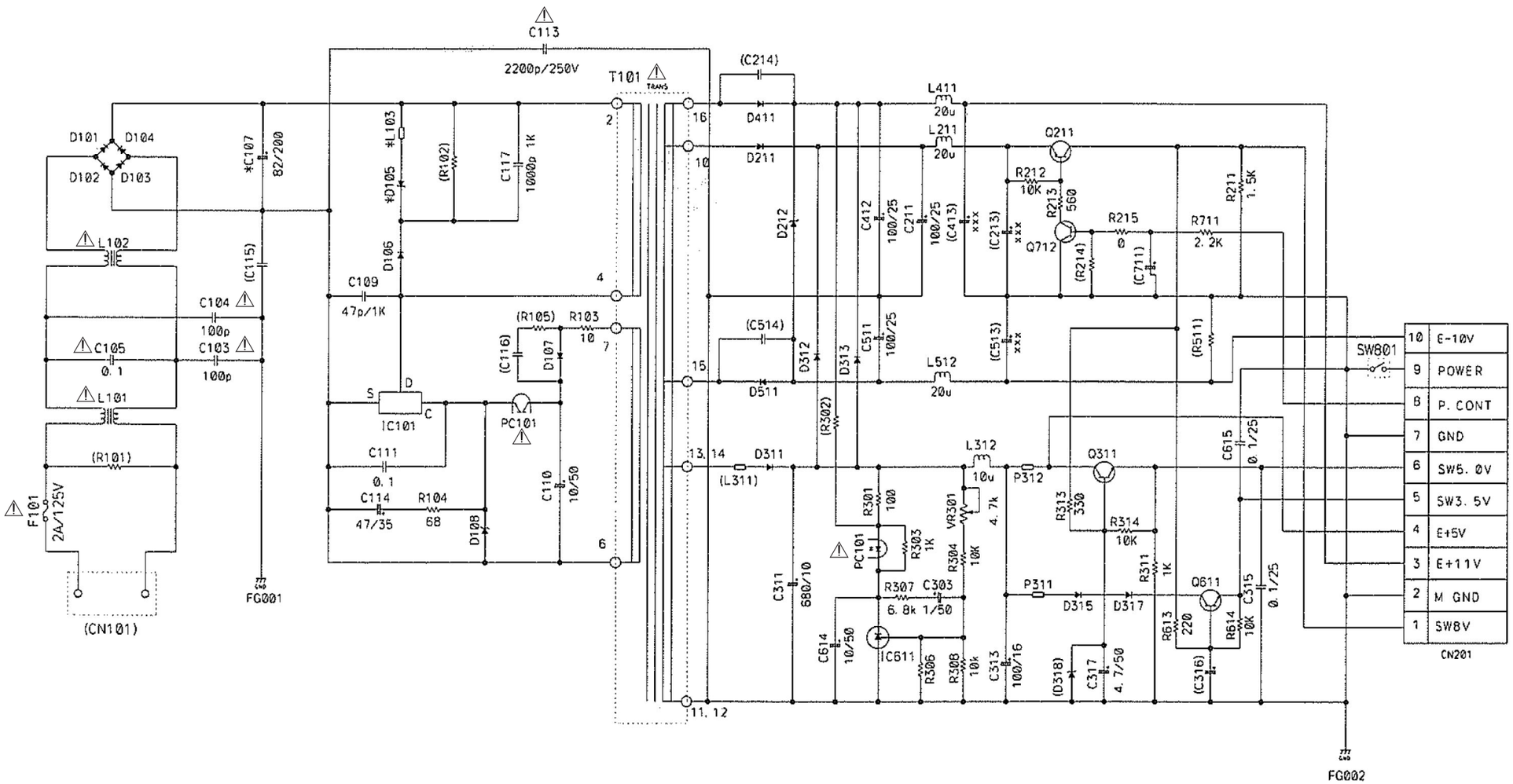
POWER BOARD
POWER BLOCK (SRV1487UC)

For Schematic Diagram

• Refer to page 4-21 for printed wiring board of Power Board.

POWER BOARD
POWER BLOCK (SRV1487UC) (US, CND, MX)
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:PB MODE
MARKED:MOUNT TABLE



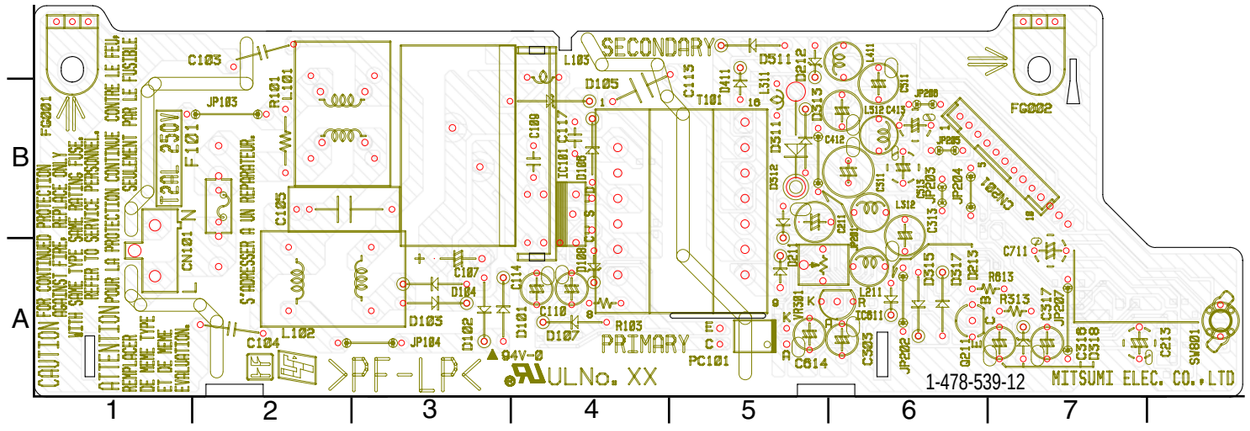
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

POWER BOARD
POWER BLOCK (SRV1487UC)

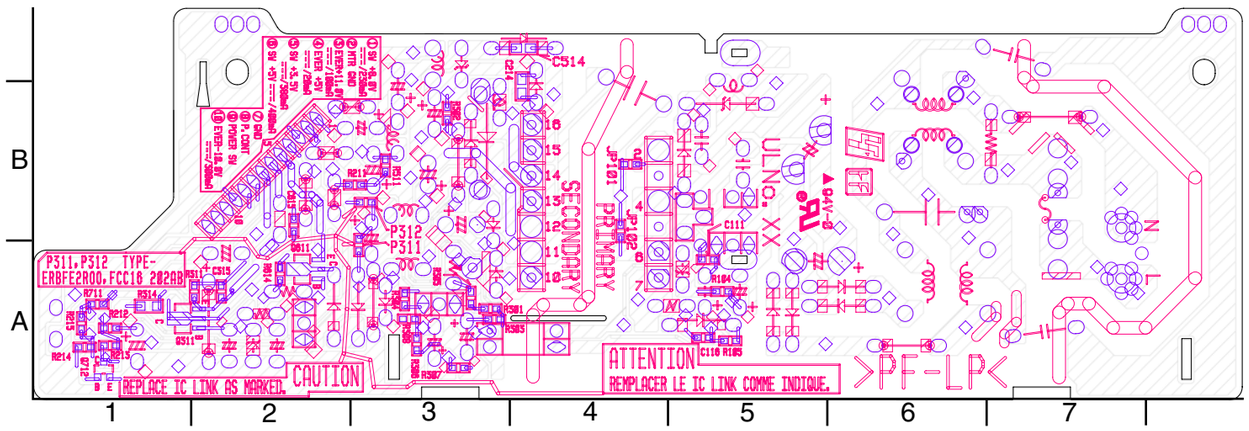
POWER BLOCK (SRV1501WW) PRINTED WIRING BOARD

• : Uses unleaded solder.

POWER BOARD (SRV1501WW) (SIDE A)
(E, SP, AUS)

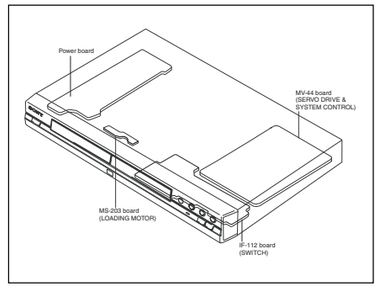

SECONDARY
PRIMARY
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH SAME TYPE 5AMP RATING FUSE. REFER TO SERVICE PERSONNEL.
ATTENTION POUR LA PROTECTION CONTINUE CONTRE LE FEU REMPLACER SEULEMENT PAR LE FUSIBLE DE MEME TYPE ET DE MEME EVALUATION.
S'ADRESSER A UN REPARATEUR.
T2AL 250V
F101
FG002
>PF-LPK
ULNo. XX
1-478-539-12
MITSUMI ELEC. CO.,LTD
1 2 3 4 5 6 7
A
B

POWER BOARD (SRV1501WW) (SIDE B)
(E, SP, AUS)



For printed wiring board

There are a few cases that the part printed on this diagram isn't mounted in this model.



POWER BOARD (SRV1501WW)

A SIDE

IC101 B-4
IC611 A-6

Q211 A-6

D101 A-4
D102 A-3
D103 A-3
D104 A-3
D105 B-4
D106 B-4
D107 A-4
D108 A-4
D211 A-5
D212 C-5
D213 A-6
D311 B-5
D312 B-5
D313 B-5
D315 A-6
D317 A-6
D318 A-7
D411 B-5
D511 C-5

B SIDE

Q311 A-1
Q611 A-2
Q712 A-1

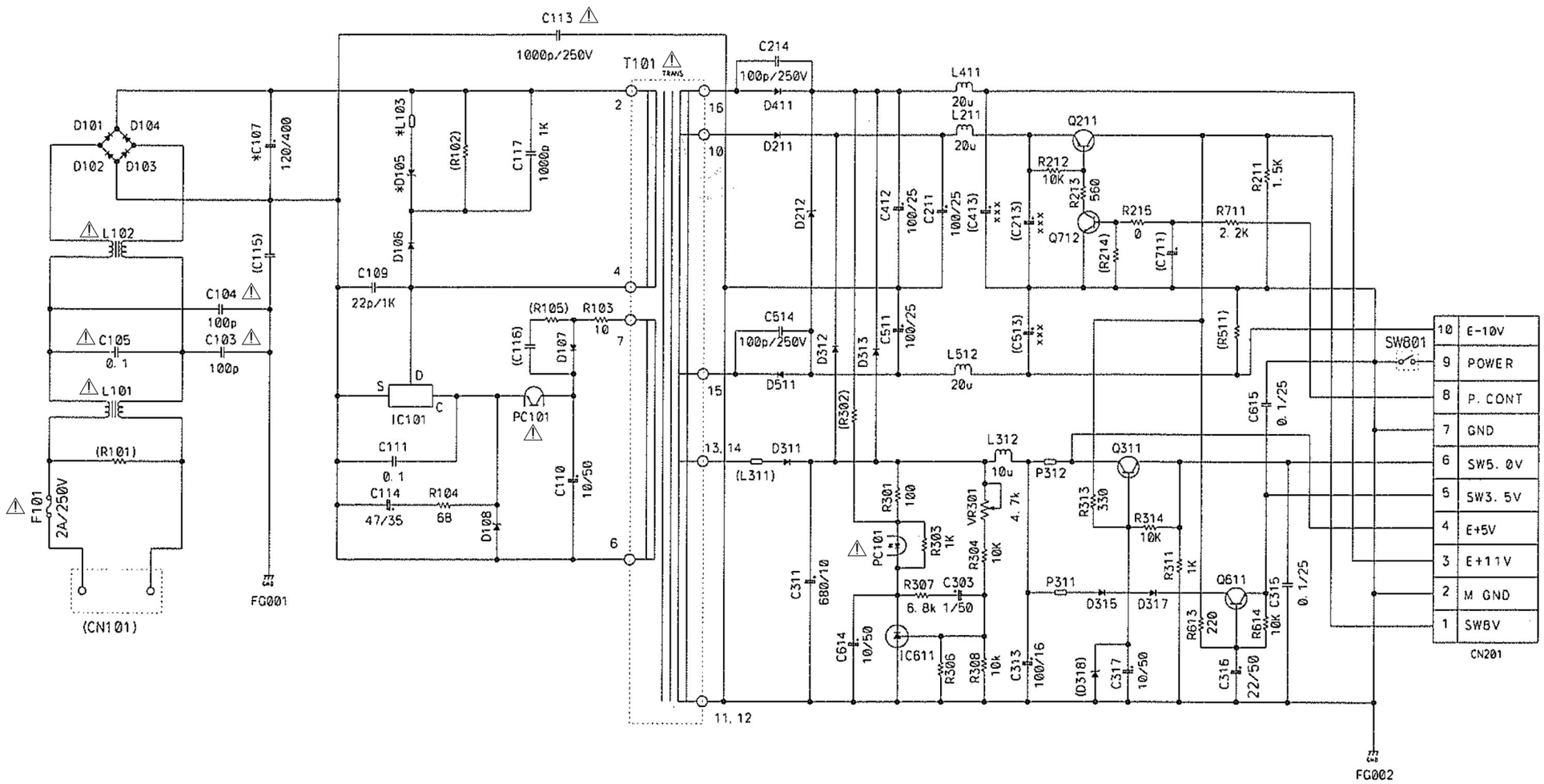
POWER BOARD
POWER BLOCK (SRV1501WW)

For Schematic Diagram

• Refer to page 4-25 for printed wiring board of Power Board.

POWER BOARD
POWER BLOCK (SRV1501WW) (E, SP, AUS)
-REF.NO.:1000 SERIES-
XX MARK:NO MOUNT

NO MARK:PB MODE
MARKED:MOUNT TABLE



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 5
IC PIN FUNCTION DESCRIPTION

5-1. SYSTEM CONTROL PIN FUNCTION (MV-044 BOARD IC201)

Pin No.	Pin name	Type	Function
1	IREF	Analog Input	Current reference input. It generates reference current for data PLL. Connect an external 100K resistor to this pin and PLLVSS.
2	PLLVSS	Ground	Ground pin for data PLL and related analog circuitry
3	LPIOP	Analog Output	Positive output of the low pass filter
4	LPION	Analog Output	Negative output of the low pass filter
5	LPFON	Analog Output	Negative output of loop filter amplifier
6	LPFIP	Analog Input	Positive input of loop filter amplifier
7	LPFIN	Analog Input	Negative input of loop filter amplifier
8	LDFOP	Analog Output	Positive output of loop filter amplifier
9	JITFO	Analog Output	RF jitter meter output
10	JITFN	Analog Input	Negative input of the operation amplifier for RF jigger meter
11	PLLVDD3	Power	3.3V power pin for data PLL and related analog circuitry
12	FOO	Analog Output	Focus servo output. PDM output of focus servo compensator
13	TRO	Analog Output	Tracking servo output. PDM output of tracking servo compensator
14	TROPENPWM	Analog Output	Tray open output, controlled by microcontroller. This is PWM output for TRWMEN27hRW2=1 or is digital output for TRWMEN27hRW2=0
15	PWMOUT1	Analog Output	The 1st general PWM output
16	PWMOUT2	Analog Output	The 2nd general PWM output
17	DVDD2	Power	2.5V power pin for internal fully digital circuitry
18	DMO	Analog Output	Disk motor control output. PWM output
19	FMO	Analog Output	Feed motor control. PWM output
20	DVSS	Ground	Ground pin for internal fully digital circuitry
21	FG	Input	Motor Hall sensor input
22	HIGHA0	Inout 2~16MA, SR PU	Microcontroller address 8
23	HIGHA1	Inout 2~16MA, SR PU	Microcontroller address 9
24	HIGHA2	Inout 2~16MA, SR PU	Microcontroller address 10
25	HIGHA3	Inout 2~16MA, SR PU	Microcontroller address 11
26	HIGHA4	Inout 2~16MA, SR PU	Microcontroller address 12
27	HIGHA5	Inout 2~16MA, SR PU	Microcontroller address 13
28	DVSS	Ground	Ground pin for internal digital circuitry
29	HIGHA6	Inout 2~16MA, SR PU	Microcontroller address 14
30	HIGHA7	Inout 2~16MA, SR PU	Microcontroller address 15
31	AD7	Inout 2~16MA, SR	Microcontroller address/data 7
32	AD6	Inout 2~16MA, SR	Microcontroller address/data 6
33	AD5	Inout 2~16MA, SR	Microcontroller address/data 5

Pin No.	Pin name	Type	Function
34	AD4	Inout 2~16MA, SR	Microcontroller address/data 4
35	DVDD3	Power	3.3V power pin for internal digital circuitry
36	AD3	Inout 2~16MA, SR	Microcontroller address/data 3
37	AD2	Inout 2~16MA, SR	Microcontroller address/data 2
38	AD1	Inout 2~16MA, SR	Microcontroller address/data 1
39	AD0	Inout 2~16MA, SR	Microcontroller address/data 0
40	IOA0	Inout 2~16MA, SR PU	Microcontroller address 0/10
41	IOA1	Inout 2~16MA, SR PU	Microcontroller address 1/10
42	DVDD2	Power	2.5V power pin for internal digital circuitry
43	IOA2	Inout 2~16MA, SR PU	Microcontroller address 2/10
44	IOA3	Inout 2~16MA, SR PU	Microcontroller address 3/10
45	IOA4	Inout 2~16MA, SR PU	Microcontroller address 4/10
46	IOA5	Inout 2~16MA, SR PU	Microcontroller address 5/10
47	IOA6	Inout 2~16MA, SR PU	Microcontroller address 6/10
48	IOA7	Inout 2~16MA, SR PU	Microcontroller address 7/10
49	A16	Output 2~16MA, SR	Flash address 16
50	A17	Output 2~16MA, SR	Flash address 17
51	IOA18	Inout 2~16MA, SR SMT	Flash address 18/10
52	IOA19	Inout 2~16MA, SR SMT	Flash address 19/10
53	IOA20	Inout 2~16MA, SR SMT	Flash address 20/10 OR Videoin Data PortB 0
54	APLLVSS	Ground	Ground pin for audio clock circuitry
55	APLLVDD3	Power	3.3V Power pin for audio clock circuitry
56	ALE	Inout 2~16MA, SR PU, SMT	Microcontroller address latch enable
57	IOOE#	Inout 2~16MA, SR SMT	Flash output enable, active low / 10
58	IOWR#	Inout 2~16MA, SR SMT	Flash write enable, active low / 10

Pin No.	Pin name	Type	Function
59	IOCS#	Inout 2~16MA, SR PU, SMT	Flash chip select, active low / 10
60	DVSS	Ground	Ground pin for internal digital circuitry
61	UP1_2	Inout 4MA, SR PU, SMT	Microcontroller port 1-2
62	UP1_3	Inout 4MA, SR PU, SMT	Microcontroller port 1-3
63	UP1_4	Inout 4MA, SR PU, SMT	Microcontroller port 1-4
64	UP1_5	Inout 4MA, SR PU, SMT	Microcontroller port 1-5
65	UP1_6	Inout 4MA, SR PU, SMT	Microcontroller port 1-6
66	DVDD3	Power	3.3V power pin for internal digital circuitry
67	UP1_7	Inout 4MA, SR PU, SMT	Microcontroller port 1-7
68	UP3_0	Inout 4MA, SR PU, SMT	Microcontroller port 3-0
69	UP3_1	Inout 4MA, SR PU, SMT	Microcontroller port 3-1
70	INT0#	Inout 2~16MA, SR PU, SMT	Microcontroller interrupt 0, active low
71	IR	Input SMT	IR control signal input
72	DVDD2	Power	2.5V power pin for internal digital circuitry
73	UP3_4	Inout	Microcontroller port 3-4
74	UP3_5	Inout	Microcontroller port 3-5
75	UWR#	Inout 2~16MA, SR PU, SMT	Microcontroller write strobe, active low
76	URD#	Inout 2~16MA, SR PU, SMT	Microcontroller read strobe, active low
77	DVSS	Ground	Ground pin for internal digital circuitry
78	RD7	Inout	DRAM data 7
79	RD6	Inout	DRAM data 6
80	RD5	Inout	DRAM data 5
81	RD4	Inout	DRAM data 4
82	DVDD2	Power	2.5V power pin for internal digital circuitry
83	RD3	Inout	DRAM data 3
84	RD2	Inout	DRAM data 2
85	RD1	Inout	DRAM data 1
86	RD0	Inout	DRAM data 0
87	RWE#	Output 2~16MA, SR	DRAM Write enable, active low
88	CAS#	Output 2~16MA, SR	DRAM columnaddress strobe, active low
89	RAS#	Output 2~16MA, SR	DRAM row address strobe, active low

Pin No.	Pin name	Type	Function
90	RCS#	Output 2~16MA, SR	DRAM chip select, active low
91	BA0	Output 2~16MA, SR	DRAM bank address 0
92	DVSS	Ground	Ground pin for internal digital circuitry
93	RD15	Inout 2~16MA, SR PU/PD, SMT	DRAM data 15
94	RD14	Inout 2~16MA, SR PU/PD, SMT	DRAM data 14
95	RD13	Inout 2~16MA, SR PU/PD, SMT	DRAM data 13
96	RD12	Inout 2~16MA, SR PU/PD, SMT	DRAM data12
97	DVDD3	Power	3.3V power pin for internal digital circuitry
98	RD11	Inout 2~16MA, SR PU/PD, SMT	DRAM data 11
99	RD10	Inout 2~16MA, SR PU/PD, SMT	DRAM data 10
100	RD9	Inout 2~16MA, SR PU/PD, SMT	DRAM data 9
101	RD8	Inout 2~16MA, SR PU/PD, SMT	DRAM data 8
102	DVSS	Ground	Ground pin for internal digital circuitry
103	CLK	Output 2~16MA, SR	DRAM clock
104	CLE	Output 2~16MA, SR	DRAM clock enable
105	RA11	Output 2~16MA, SR	DRAM address bit 11 or audio serial data 3 (channel 7/8)
106	RA9	Output 2~16MA, SR	DRAM address 9
107	RA8	Output 2~16MA, SR	DRAM address 8
108	DMVDD3	Power	3.3V Power pin for DRAM clock circuitry
109	DMVSS	Ground	Ground pin for DRAM clock circuitry
110	RA7	Output 2~16MA, SR	DRAM address 7
111	DVDD3	Power	3.3V power pin for internal digital circuitry
112	RA6	Output 2~16MA, SR	DRAM address 6
113	RA5	Output 2~16MA, SR	DRAM address 5
114	RA4	Output 2~16MA, SR	DRAM address 4
115	DVSS	Ground	Ground pin for internal digital circuitry
116	DQM1	Output 2~16MA, SR	Mask for DRAM input/output byte 1
117	DQM0	Output 2~16MA, SR	Mask for DRAM input/output byte 0
118	BA1	Output 2~16MA, SR	DRAM bank address 0
119	RA10	Output 2~16MA, SR	DRAM address 10

Pin No.	Pin name	Type	Function
120	DVDD2	Power	2.5V power pin for internal digital circuitry
121	RA0	Output 2~16MA, SR	DRAM address 0
122	RA1	Output 2~16MA, SR	DRAM address 1
123	RA2	Output 2~16MA, SR	DRAm address 2
124	RA3	Output 2~16MA, SR	DRAM address 3
125	DVSS	Ground	Ground pin for internal digital circuitry
126	RD31	Inout 2~16MA, SR PU/PD, SMT	DRAM data 31
127	RD30	Inout 2~16MA, SR PU/PD, SMT'	DRAM data 30
128	RD29	Inout 2~16MA, SR PU/PD, SMT	DRAM data 29
129	RD28	Inout 2~16MA, SR PU/PD, SMT	DRAM data 28
130	DVDD3	Power	3.3V power pin for internal digital circuitry
131	RD27	Inout 2~16MA, SR PU/PD, SMT	DRAM data 27
132	RD26	Inout 2~16MA, SR PU/PD, SMT	DRAM data 26
133	RD25	Inout 2~16MA, SR PU/PD, SMT	DRAM data 25
134	RD24	Inout 2~16MA, SR PU/PD, SMT	DRAM data 24
135	DVSS	Ground	Ground pin for internal digital circuitry
136	DQM3	Output 2~16MA, SR	Mask for DRAM input/output byte 3
137	DQM2	Output 2~16MA, SR	Mask for DRAM input/output byte 2
138	RD23	Inout 2~16MA, SR PU/PD, SMT	DRAM data 23 / Videoin Data PortA 7
139	RD22	Inout 2~16MA, SR PU/PD, SMT	DRAM data 22 / Videoin Data PortA 6
140	DVDD2	Power	2.5V power pin for internal digital circuitry
141	RD21	Inout 2~16MA, SR PU/PD, SMT	DRAM data 21 / Videoin Data PortA 5
142	RD20	Inout 2~16MA, SR PU/PD, SMT	DRAM data 20 / Videoin Data PortA 4
143	RD19	Inout 2~16MA, SR PU/PD, SMT	DRAM data 19 / Videoin Data PortA 3
144	RD18	Inout 2~16MA, SR PU/PD, SMT	DRAM data 18 / Videoin Data PortA 2
145	DVSS	Ground	Ground pin for internal digital circuitry

Pin No.	Pin name	Type	Function
146	RD17	Inout 2~16MA, SR PU/PD, SMT	DRAM data 17 / Videoin Data PortA 1
147	RD16	Inout 2~16MA, SR PU/PD, SMT	DRAM data 16 / Videoin Data PortA 0
148	ABCK	Output 4MA	Audio bit clock
149	ALRCK	Inout 4MA, PD, SMT	(1) Audio left/right channel clock (2) Trap value in power-on reset : 1 : use external 373 0 : use internal 373
150	DVDD3	Power	3.3V power pin for internal digital circuitry
151	ACLK	Inout 4MA	Audio DAC master clock (384/256 audio sample frequency)
152	MC_DATA	Input	Microphone serial input
153	SPDIF	Output 2~16MA, SR : ON/OFF	SPDIF output
154	ASDATA0	Inout 4MA PD SMT	(1) Audio serial data 0 (left/right channel) (2) Trap value in power-on reset : 1 : manufactory test mode 0 : normal operation
155	ASDATA1	Inout 4MA PD SMT	(1) Audio serial data 1 (surround left/surround right channel) (2) Trap value in power-on reset : 1 : manufactory test mode 0 : normal operation
156	ASDATA2	Inout 4MA PD SMT	(1) Audio serial data 2 (center/left channel) (2) Trap value in power-on reset : 1 : manufactory test mode 0 : normal operation
157	ASDATA3	Inout 4MA PD SMT	(1) Audio serial data 3 (surround left/surround right channel) (2) Trap value in power-on reset : 1 : manufactory test mode 0 : normal operation OR Videoin Data PortB 1
158	ASDATA4	Inout 4MA PD SMT	(1) Audio serial data 4 (center/left channel) (2) Trap value in power-on reset : 1 : manufactory test mode 0 : normal operation
159	DACVDDC	Power	3.3V power pin for VIDEO DAC circuitry
160	VREF	Analog input	Bandgap reference voltage
161	FS	Analog output	Full scale adjustment
162	YUV0/CIN	Output 4MA, SR	Video data output bit 0 / Compensation capacitor
163	DACVSSC	Ground	Ground pin for VIDEO DAC circuitry
164	YUV1/C	Output 4MA, SR	Video data output bit 1 / Analog chroma output
165	DACVDDB	Power	3.3V power pin for VIDEO DAC circuitry
166	YUV2/Y	Output 4MA, SR	Video data output bit 2 / Analog Y output
167	DACVSSB	Ground	Ground pin for VIDEO DAC circuitry
168	YUV3/CVBS	Output 4MA, SR	Video data output bit 3 / Analog composite output
169	DACVDDA	Power	3.3V power pin for VIDEO DAC circuitry
170	YUV4/G	Output 4MA, SR	Video data output bit 4 / Green or Y
171	DACVSSA	Ground	Ground pin for VIDEO DAC circuitry
172	YUV5/B	Output 4MA, SR	Video data output bit 5 / Blue or CB
173	YUV6/R	Output 4MA, SR	Video data output bit 6 / Red or CR
174	ICE	Input PD, SMT	Microcontroller ICE mode enable
175	BLAN#	Inout 4MA, SR SMT	Video blank area, active low / Videoin Field_601

Pin No.	Pin name	Type	Function
176	VSYN	Inout 4MA, SR SMT	Vertical sync / Videoin Vsync_601
177	YUV7	Inout 4MA, SR SMT	Video data output bit 7 / Videoin Data PortB 3
178	DVSS	Ground	Ground pin for internal digital circuitry
179	HSYN	Inout 4MA, SR SMT	Horizontal sync / Videoin Hsync_601
180	SPMCLK	Input	Audio DAC master clock of SPDIF input / Videoin Data PortB 4
181	SPDATA	Input	Audio data of SPDIF input / Videoin Data PortB 5
182	DVDD2	Power	2.5V power pin for internal digital circuitry
183	SPLRCK	Input	Audio left/right channel clock of SPDIF input / Videoin Data PortB 6
184	SPBCK	Input	Audio bit clock of SPDIF input/ Videoin Data PortB 7
185	DVDD3	Power	3.3V power pin for internal digital circuitry
186	XTALO	Output	Crystal output
187	XTALI	Input	Crystal input
188	PRST	Input PD, SMT	Power on reset input, active high
189	DVSS	Ground	Ground pin for internal digital circuitry
190	VFO13	Output	The 1st, 3rd header VFO pulse output
191	IDGATE	Output	Header detect signal output
192	DVDD3	Power	3.3V power pin for internal digital circuitry
193	UDGATE	Output	DVD-RAM recording data gate signal output
194	WOBSI	Input	Wobble signal input
195	SDATA	Output	RF serial data output
196	SDEN	Output	RF serial data latch enable
197	SLCK	Output	RF serial clock output
198	BDO	Input	Flag of defect data input status
199	ADCVSS	Ground	Ground pin for ADC circuitry
200	ADIN	Analog Input	General A/D input
201	RFSUBI	Analog Input	RF subtraction signal input terminal
202	TEZISLV	Analog Input	Tracking error zero crossing low pass input
203	TEI	Analog Input	Tracking error input
204	CSO	Analog Input	Central servo input
205	FEI	Analog Input	Focus error input
206	RFLEVEL	Analog Input	Sub beam add input or RFRP low pass input
207	RFRP_DC	A Input	RF ripple detect input
208	RFRP_AC	Analog Input	RF ripple detect input (through AC coupling)
209	HRFZC	Analog Input	High frequency RF ripple zero crossing
210	PWMVREF	A Input	A reference voltage input for PWM circuitry. A typical value of 4.0 v
211	PWM2VREF	A Input	A reference voltage input for PWM circuitry. A typical value of 2.0 v
212	ADCVDD3	Power	3.3V power pin for ADC circuitry
213	RFDTSLVP	Analog Output	Positive RF data slicer level output
214	RFDTSLVN	Analog Output	Negative RF data slicer level output
215	RFIN	Analog Input	Negative input of RF differential signal
216	RFIP	Analog Input	Positive input of RF differential signal

MEMO

SECTION 6
TEST MODE

6-1. GENERAL DESCRIPTION

The Mirror Time and IOP measurement allows you to make diagnosis and adjustment simply by using the remote commander and monitor TV. The instructions, diagnosis results, etc. are given on the on screen display (OSD).

The Mirror Time and IOP measurement is required is such events where servicing a DVD-Player includes changing the Base Unit (BU). For each new BU to be used with a certain MV-044 board, Mirror Time and IOP measurement need to be carried out.

6-2. STARTING TEST MODE

Press the [TOP MENU], [CLEAR], [POWER] keys on the remote commander in this order with the DVD player in standby mode. The Test Mode starts, then the menu shown below will be displayed on the TV screen.

```
        Remocon Diagnosis Menu

0. External Chip Check
1. Servo Parameter Check
2. Drive Manual Operation
3. Emergency History
4. Version Information
5. Video Level Adjustment

Model Name : DPX-xxxx_xx
IF-con     : Ver. x.xxx (xxxx)
Syscon     : Ver. x.xxx
```

The menu above is the Remocon Diagnosis Menu screen which consists of six main function. At the bottom of the menu screen, the model name and IF-con version. To enter Mirror Time Adjustment menu, press button [2] on the remote commander to enter Drive Manual Operation menu. To exit from the Test Mode, press the power button on the remote commander.

6-3. DRIVE MANUAL OPERATION

The Drive Manual Operation menu consists of five main function. By pressing [2] on the remote commander in the Remocon Diagnosis Menu, the screen will appear as below.

```
        Drive Manual Operation

1. Servo Control
2. Track/Layer Jump
3. Manual Adjustment
4. Tray Aging Mode
5. Mirr Time Adjust
0. Return to Top Menu
```

6-4. MIRROR TIME ADJUSTMENT

To enter Mirror Time Adjustment, press [5] on the remote commander. The screen will appear as below.

```
        Mirr time Adjust Menu

1. CD MIRR time Check:
2. DVD MIRR time Check:
3. Threshold:
4. Save to EEPROM
5. Default set MIRR time

[Open] Tray open [Close] Tray close
[0] Return to previous menu
```

There are five main commands in the Mirr time Adjust menu as shown in the figure above. The functions of each command are described in the following page.

1. CD Mirr time Check
This command checks the Mirror time value for CD disc.

2. DVD Mirr time Check
This command checks the Mirror time value for DVD disc.

3. Threshold
This command displays the threshold value between CD and DVD mirror time.

4. Save to EEPROM
This command saves an adjusted mirror time value to the EEPROM.

5. Default set MIRR time
This command will set CD and DVD mirror time to firmware default value.

[Open] / [Close]
Pressing the Open / Close button controls the tray for disc change during mirror time adjustment.

[0] Return to previous menu
Press [0] button to return to previous menu.

6-4-1. EXECUTING MIRROR TIME ADJUSTMENT

In order to execute mirror time adjustment, the following standard procedures must be followed.

(1) In standby mode, press [TOP MENU], [CLEAR], [POWER] to enter Remocon Diagnosis Mode.

(2) Select “2. Drive Manual Operation”.

```
        Remocon Diagnosis Menu

0. External Chip Check
1. Servo Parameter Check
2. Drive Manual Operation
3. Emergency History Check
4. Version information
5. Video Level Adjustment

Model      : DPX-xxxx_xx
IF-con     : Ver. x.xxx (xxxx)
Syscon     : Ver. x.xxx
```

(3) Select “5. MIRR time Adjust”.

```
Drive Manual Operation

1. Servo Control
2. Track/Layer Jump
3. Manual Adjustment
4. Tray Aging Mode
5. MIRR time Adjust
0. Return to Top Menu
```

(4) Select “5. Default set MIRR time”.

```
MIRR time adjustment Menu

1. CD MIRR time Check:
2. DVD MIRR time Check:
3. Threshold:
4. Save to EEPROM:
5. Default set MIRR time:

[Open] Tray open [Close] tray close
[0] Return to previous menu
```

(5) Select “3. Threshold”.

(6) Confirm the number. If it is 75, go to next step. If it is any other value, return to step 4.

```
MIRR time adjustment Menu

1. CD MIRR time Check:
2. DVD MIRR time Check:
3. Threshold:(75) ←
4. Save to EEPROM:
5. Default set MIRR time:

[Open] Tray open [Close] tray close
[0] Return to previous menu
```

(7) Push “Open/Close” key to eject tray.

(8) Insert Test Disc HLX-504 into tray.

(9) Push “Open/Close” key to close tray.

(10) Push “2. DVD MIRR time Check”.

(11) Wait for HEX number to display.

(12) Confirm the number, if XX is 28 ~ 70, proceed with next step. If no, return to 8.

```
MIRR time adjustment Menu

1. CD MIRR time Check:
2. DVD MIRR time Check:  xx (xx)
3. Thereshold:
4. Save to EEPROM:
5. Default set MIRR time:

[Open] tray open [close] tray close
[0] Return to previous menu
```

(13) Push “4. Save to EEPROM”.

(14) Confirm the same values are displayed. If it is not same, return to step 7.

```
MIRR time adjustment Menu

1. CD MIRR time Check:
2. DVD MIRR time Check: (XX XX)
3. Threshold:
4. Save to EEPROM:
5. Default set MIRR time:

[Open] Tray open [close] tray close
[0] Return to previous menu
```

(15) Push “Open/Close” key to eject tray.

(16) Take out HLX-504 and insert Test Disc YEDS-18 into tray.

(17) Push “Open/Close” key to close tray.

(18) Push “1. CD MIRR time check”.

(19) Wait for HEX number to display.

(20) Confirm the number, if YY is 5A ~ E8, proceed with next step. If no, return to 15.

```
MIRR time adjustment Menu

1. CD MIRR time Check:  yy (YY)
2. DVD MIRR time Check:  XX  XX
3. Threshold:
4. Save to EEPROM:
5. Default set MIRR time:

[Open] Tray open [close] tray close
[0] Return to previous menu
```

(21) Push “4. Save to EEPROM”.

(22) Confirm the same values are displayed. If it is not the same, return to step 15.

```
MIRR time adjustment Menu

1. CD MIRR time check: (YY YY)
2. DVD MIRR time check:  XX  XX
3. Threshold:
4. Save to EEPROM:
5. Default set MIRR time:

[Open] Tray open [close] tray close
[0] Return to previous menu
```

(23) Push “Open/Close” key to eject tray.

(24) Remove Test Disc YEDS-18 from tray.

(25) Push “Open/Close” key to close tray.

(26) Press “0” to return to the Drive Manual Operation menu.

(27) Press “0” to return to the Remocon Diagnosis Menu.

(28) Press power button to switch OFF set.

6-5. EXECUTING IOP MEASUREMENT

In order to execute mirror time adjustment, the following standard procedures must be followed.

(1) In standby mode, press [TOP MENU], [CLEAR], [POWER] to enter Remocon Diagnosis Mode.

```
        Remocon Diagnosis Menu

0. External Chip Check
1. Servo Parameter Check
2. Drive Manual Operation
3. Emergency History Check
4. Version information
5. Video Level Adjustment

Model        : DPX-1790_UC2
IF-con  Ver  : 1.000 (5B84)
Syscon  Ver  : 1.81
```

(2) Select "2. Drive Manual Operation" by pressing the [2] key on the remote commander. The screen will appear as below.

```
        Drive Manual Operation

1. Servo Control
2. Track/Layer Jump
3. Manual Adjustment
4. Tray Aging Mode
5. MIRR time adjust
0. Return to top Menu
```

(3) Select "3. Manual Adjustment" by pressing the [3] key on the remote commander. The screen will appear as below.

```
            Manual Adjust

1. Track Balance Adjust:
2. Track Gain Adjust:
3. Focus Balance Adjust:
4. Focus Gain Adjust:
5. Eg boost Adjust:
6. Iop:
7. TRV. Level:
8. S curve(FE) Level:
9. RFL(PI) Level:
0. MIRR Time:

? ? Change Value
[RETURN] Return to previous menu
```

(4) Select Iop by pressing [6] key on the remote commander.

(5) Wait until a hexadecimal number appear.

```
            Manual Adjust

1. Track Balance Adjust:
2. Track Gain Adjust:
3. Focus Balance Adjust:
4. Focus Gain Adjust:
5. Eq Boost Adjust:
6. Iop: ED:
7. TRV. Level:
8. S curve(FE) Level:
9. RFL(PI) Level:
0. MIRR Time:

Change Value
[0] Return to previous menu
```

(6) Convert data from hexadecimal to decimal using conversion table.

(9) Press [RETURN] to return back to previous menu.

(10) Press 0 to return to Top Menu and power OFF the DVD Player.

6-6. IF CON SELF DIAGNOSTIC FUNCTION

1. IF-112 BOARD (IF CON) TEXT MODE

The IF-112 board (IF CON) test mode is the IF CON self-diagnosis mode. THe IF CON can diagnose the functions of the IF-112 board that the IF CON controls. Normally, the IF CON makes a serial communication with the SYSTEM CONTROL and operates following the commands from the SYSTEM CONTROL, but in the Test mode, the IF CON operates independently from the SYSTEM CONTROL.

In the test mode, the following functions can be checked.

1. Button function
2. Remote commander receiving function
3. SYSTEM CONTROL-IF CON serial communication
4. Fluorescent display tube lighting check
   - Grid check
   - Anode check
5. LED control function

In the test mode, the main unit operates same as usual, except voltage monitoring, communication, display of fluorescent display tube, and LED control.

1. The routine that monitors +3.3V (PCONT) of MV-044 board is not provided.
2. The monitoring timer for serial communication with the SYSTEM CONTROL is not provided. The main unit is not placed in the Standby mode, even if the communication with SYSTEM CONTROL is normal.
3. Display of fluorescent display tube.
   (Normally, display is mode following the commands from SYSTEM CONTROL).
4. LED control.
   (Normally, control is mode made following the commands from SYSTEM CONTROL).

2. OPERATION OF SELF CHECK MODE

The Self Check mode is the function to conduct the basic test to the FL display and DVD panel section.

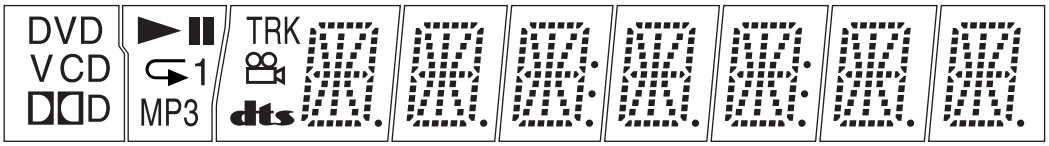
2-1. Self Check Mode Transition Processing

At the AC Power ON after reset of IF CON is released, while pressing with the MV-044 board are not connected to the IF-112 board, or while pressing the ■ key on the main unit with the IF CON in STANDBY mode, enter [RETURN] → [DISPLAY] (or [SETUP]) on the remote commander, and the main unit transits to the Self Check Mode.

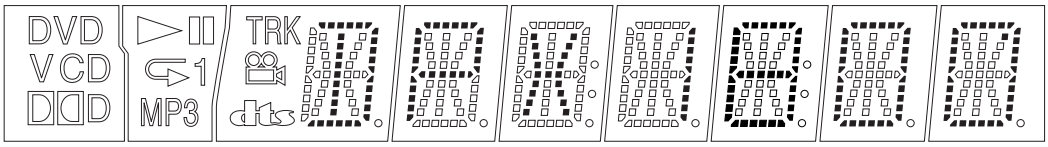
2-2. Operation of Auto Self Check

When the Self Check mode becomes active at the AC Power ON or by key input, the test display of the following steps (1) to (4) is repeated.

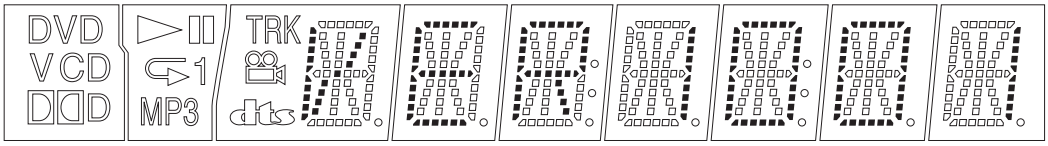
(1) FLD and LED all ON (for 5 seconds)



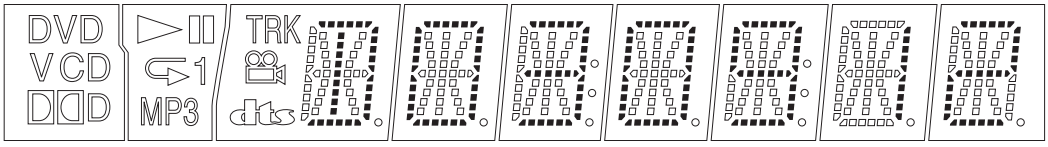
(2) MODEL display (for 2 seconds)



(3) Version display (for 2 seconds)



(4) ROM creation date display (for 2 seconds)



2-3. Each Self Check Function

Each Self Check function tests the FLD display, LED display, and key input.

Input Voltage [V]	IC404: Pin No. (Signal)			
	PIN ㉞ (AD1)	PIN ㉟ (O/C)	PIN ㊱ (STOP)	PIN ㊲
0 - 0.20	PLAY	OPEN/CLOSE	STOP	POWER
0.60 - 0.82	PAUSE	-	-	-
1.16 - 1.47	PREVIOUS	-	-	-
1.80 - 2.12	NEXT	-	-	-
2.48 - 2.70	-	-	-	-

2-3-1. FLD and LED All ON

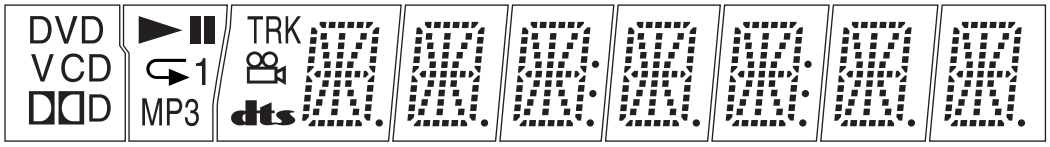
2-3-1-1. Transition Keys in Self Check Mode

- ⏏ key and ■ key on the main unit
- ← key on the remote commander

2-3-1-2. Operation and display

In this mode, all LEDs and all segments of FLD turn ON.

- **Example of FLD all ON**



2-3-2. Main Unit Key Name Display and Key Code Display

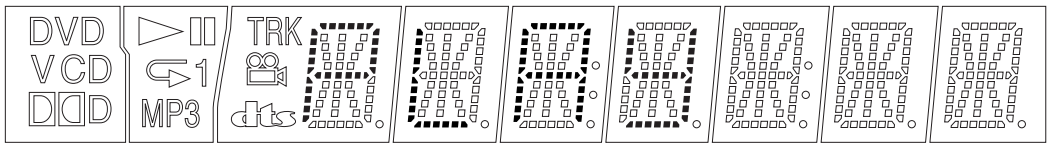
2-3-2-1. Transition Keys in Self Check Mode

- Keys on the main unit except keys transited in Self Check Mode

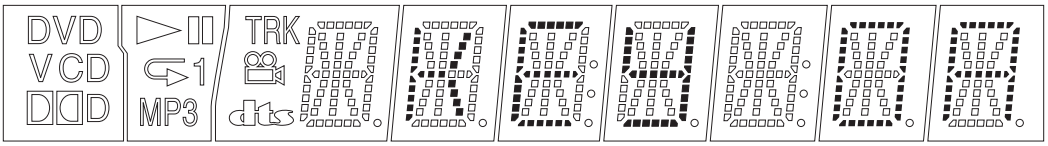
2-3-2-2. Operation and Display

When a key on the main unit is pressed in the Self Check mode, the name of that key is displayed on the FLD. Aslo, the key name display and the key code display can be switched with the DISPLAY key on the remote commander, “NOTHING” is displayed when nothing is entered. Also, DVD, V, CD segments turn on when a communication error occurred.

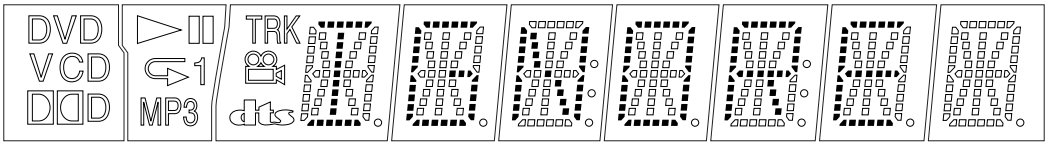
- **FLD display (at input of ▷ key on the main unit)**



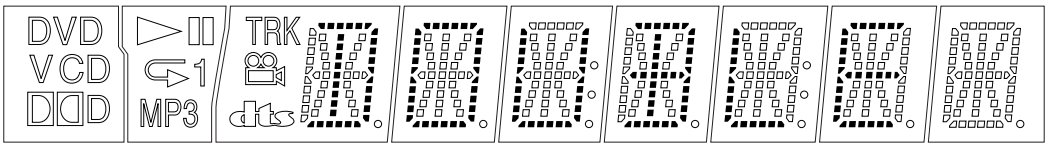
• **Key code display**
(at input of [▷] key, key code: 0Ah)



• **At input of faulty voltage**



• **When key is pressed double**



2-3-3. Remote Commander Key Name Display and Key Code Display

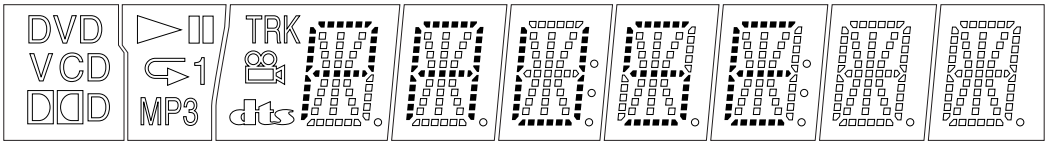
2-3-3-1. Transition Keys in Self Check Mode

• Remote commander keys except keys transited in Self Check Mode

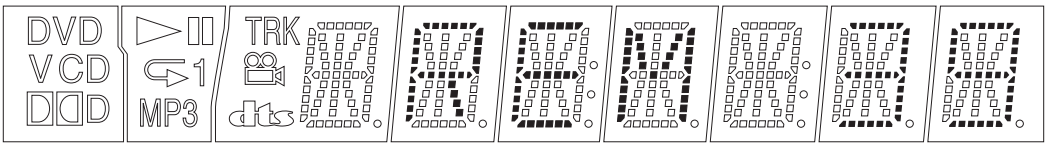
2-3-3-2. Operation and Display

When a key on the remote commander is pressed in the Self Check Mode, the name of that key is displayed on the FLD. Aslo, the key name display and the key code display can be switched with the [DISPLAY] key on the remote commander. “NOTHING” is displayed when nothing is entered. Also, VIDEO CD, DVD, and CD segments turn on when a communication error occurred.

• **Remote commander key name display (at input of [▮▮] key)**



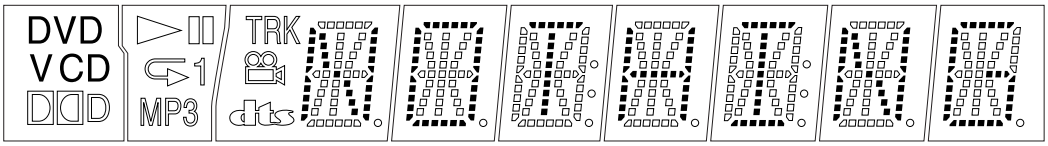
• **Remote commander key code display**
(at input of [▮▮] key, key code:39h)



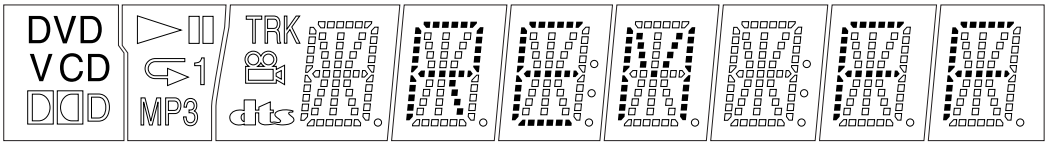
2-3-4. Communication Monitoring Display

The communication state is monitored and displayed while the key name on the main unit and the remote commander is displayed.
When the communication to the System Controller failed, VIDEO CD, DVD, and CD segments turn on.

- **Communication error display (at no input of key and remote commander)**



- **Communication error display (at code display without input of the remote commander)**



2-3-5. FLD Anode Test Display and SHUTTLE Click Operation Test

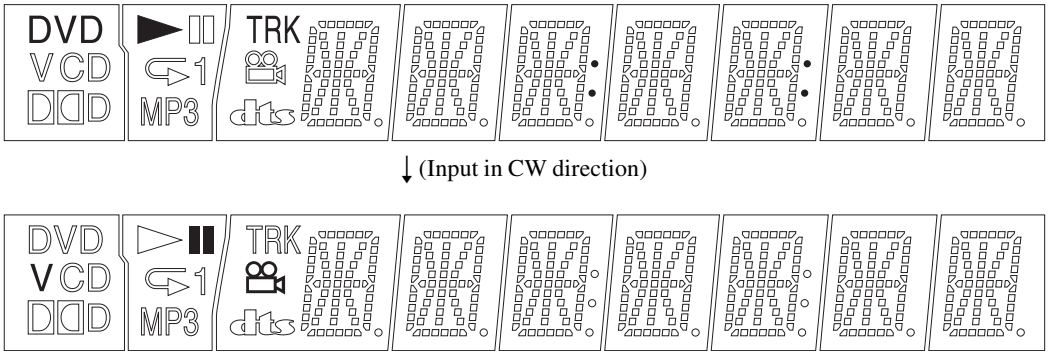
2-3-5-1. Transition Keys in Self Check Mode

- [→] key on the remote commander
- SHUTTLE on the remote commander during Anode Test display (This unit does not provide JOG/SHUTTLE, and therefore use another DVD remote commander having the JOG/SHUTTLE)

2-3-5-2. Operation and Display

The Self Check Mode transits to this mode when [→] key is entered. This tests whether each segment turns on individually. Only the first segment of each grid of FLD turns on, and each time the SHUTTLE is entered, the segment of each grid switched in order. When SHUTTLE input is clockwise, the segment switches in 1 - 2 -3 direction, or counterclockwise it switches in 3 - 2- 1 direction.

- **Display at the start of Anode Test**



2-3-6. FLD Grid Test Display and SHUTTLE Click Operation Test

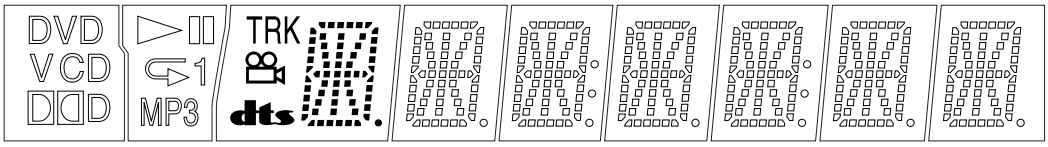
2-3-6-1. Transition Keys in Self Check Mode

- [↑] key on the remote commander
- SHUTTLE on the remote commander during Grid Test display (This unit does not provide JOG/SHUTTLE, and therefore use another DVD remote commander having the JOG/SHUTTLE)

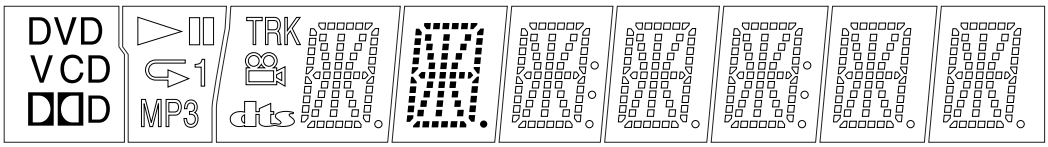
2-3-6-2. Operation and Display

The Self Check Mode transits to this mode when [↑] key is entered. This tests whether each grid turns on individually. The first grid only of FLD turns on and other grid turn off. Each time the SHUTTLE is entered, the grid is switched in order. When SHUTTLE input is clockwise, the grid switched in 1 - 2 - 3 direction, or counterclockwise it switches in 3 - 2 - 1 direction.

- **Display at the start of Grid Test**



↓ (Input in CW direction)



2-3-7. LED Test Display

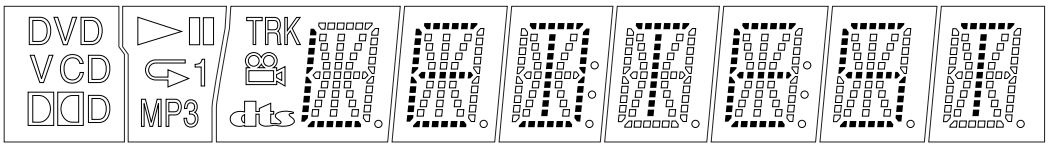
2-3-7-1. Transition Keys in Self Check Mode

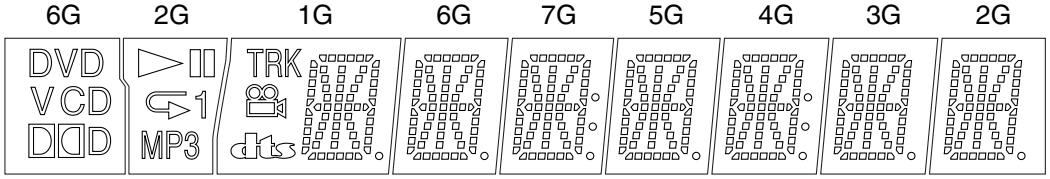
- [↓] key on the remote commander
- SHUTTLE on the remote commander during Grid Test display (This model does not provide JOG/SHUTTLE, and therefore use another DVD remote commander having the JOG/SHUTTLE)

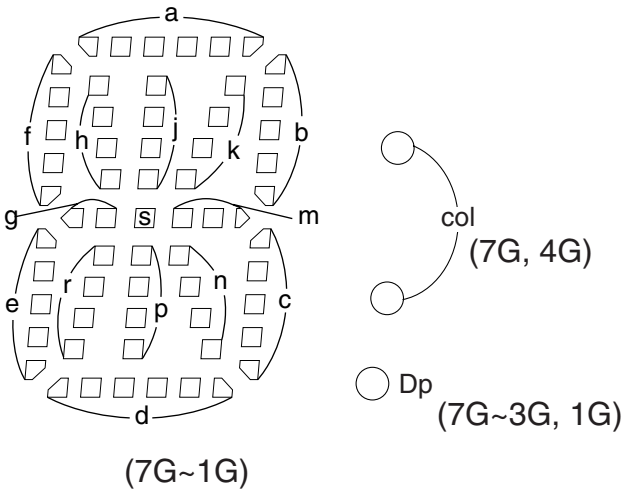
2-3-7-2. Operation and Display

LED is switched in order by the input JOG/SHUTTLE on the remote commander. Also, LED ON/OFF is switched by the input of same key as the function that turns on the LED conncerned.

- **FLD display during LED Test**







ANODE CONNECTION

	7G	6G	5G	4G	3G	2G	1G
P1	col	DVD	-	col	-	▷	TRK
P2	-	V	-	-	-	II	📹
P3	-	CD	-	-	-	⮌	dts
P4	-	DDD	-	-	-	1	-
P5	Dp	Dp	Dp	Dp	Dp	MP3	Dp
P6	a	a	a	a	a	a	a
P7	k	k	k	k	k	k	k
P8	j	j	j	j	j	j	j
P9	h	h	h	h	h	h	h
P10	b	b	b	b	b	b	b
P11	f	f	f	f	f	f	f
P12	m	m	m	m	m	m	m
P13	s	s	s	s	s	s	s
P14	g	g	g	g	g	g	g
P15	c	c	c	c	c	c	c
P16	d	d	d	d	d	d	d
P17	r	r	r	r	r	r	r
P18	p	p	p	p	p	p	p
P19	n	n	n	n	n	n	n
P20	e	e	e	e	e	e	e

SECTION 7
ELECTRICAL ADJUSTMENT

This section describes procedures and instructions necessary for adjusting electrical circuits in this unit.

Instruments required:

1) Color monitor TV
2) Oscilloscope 1 or 2 phenomena, band width over 100 MHz, with delay mode
3) Frequency counter (over 8 digits)
4) Digital voltmeter
5) Standard commander (RMT-D126J)
6) DVD reference disc
   HLX-501 (J-6090-071-A) (dual layer) (NTSC)
   HLX-503 (J-6090-069-A) (single layer) (NTSC)
   HLX-504 (J-6090-088-A) (single layer) (NTSC)
   HLX-505 (J-6090-089-A) (dual layer) (NTSC)
7) SACD reference disc
   HLXA-509 (J-6090-090-A)
8) Extention Cable (J-6090-107-A)

7-1. POWER SUPPLY ADJUSTMENT

Mode	E-E
Instrument	Digital voltmeter
EVER +5.0 V Check	
Test point	CN201 pin ④
Specification	5.0 ± 0.3 Vdc
SW +3.5 V Check	
Test point	CN201 pin ⑤
Specification	3.35 ± 0.2 Vdc
SW+5 V Check	
Test point	CN201 pin ⑥
Specification	5.0 ± 0.3 Vdc
SW +8 V Check	
Test point	CN201 pin ①
Specification	8.0 ± 0.5 Vdc
EVER +11 V Check	
Test point	CN201 pin ③
Specification	11.0 + 1.0/–0.5 Vdc
EVER –10.0 V Check	
Test point	CN201 pin ⑩
Specification	–10.0 + 0.5/–1.0 Vdc

Checking method:

1) Confirm that each voltage satisfies the specification.

Note
Because the heatsink installed on the power supply board is a part of the primary side, never touch it to avoid electrical shock.

Abbreviation

CA2 : Canada model
PX3 : PX model
MX2 : Mexico model
E32 : Latin model
BR4 : Brazil model
HK2 : Hong Kong model
SP6 : GA model
TW1 : Taiwan model
KR2 : Korea model
EA4 : Saudi Arabia model
ME2 : Middle East model
ME5 : India model
AU2 : Australia model
CN6 : China model
AR2 : Argentina model
U2 : US model
IR2 : Iran model

SECTION 8
REPAIR PARTS LIST

8-1. EXPLODED VIEWS

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

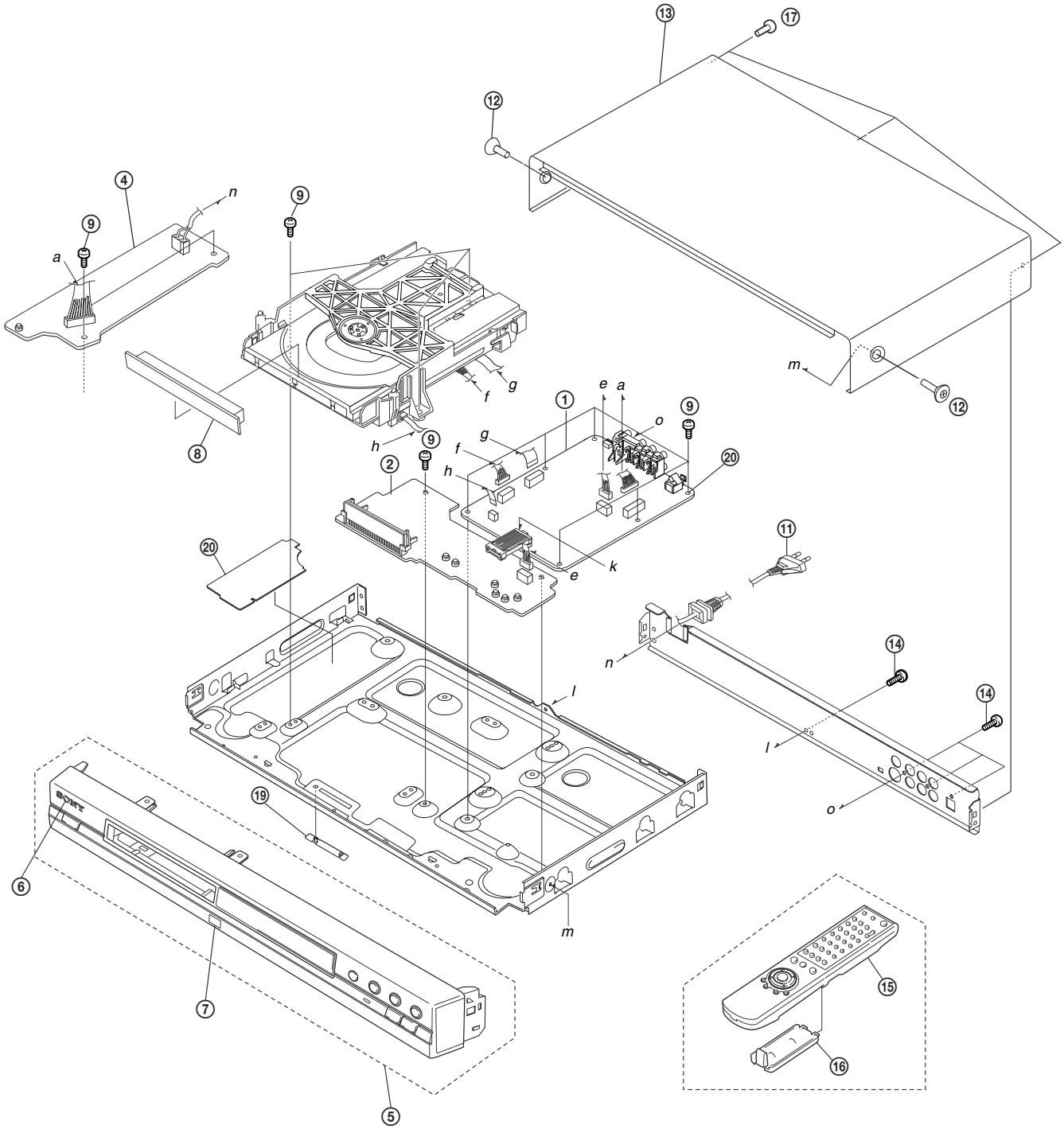
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Abbreviation

CA2	: Canada model	ME5	: India model
PX3	: PX model	AU2	: Australia model
MX2	: Mexico model	CN6	: China model
E32	: Latin model	AR2	: Argentina model
BR4	: Brazil model	U2	: US model
HK2	: Hong Kong model	IR2	: Iran model
SP6	: GA model		
TW1	: Taiwan model		
KR2	: Korea model		
EA4	: Saudi Arabia model		
ME2	: Middle East model		

8-1-1. MAIN SECTION

ns : not supplied

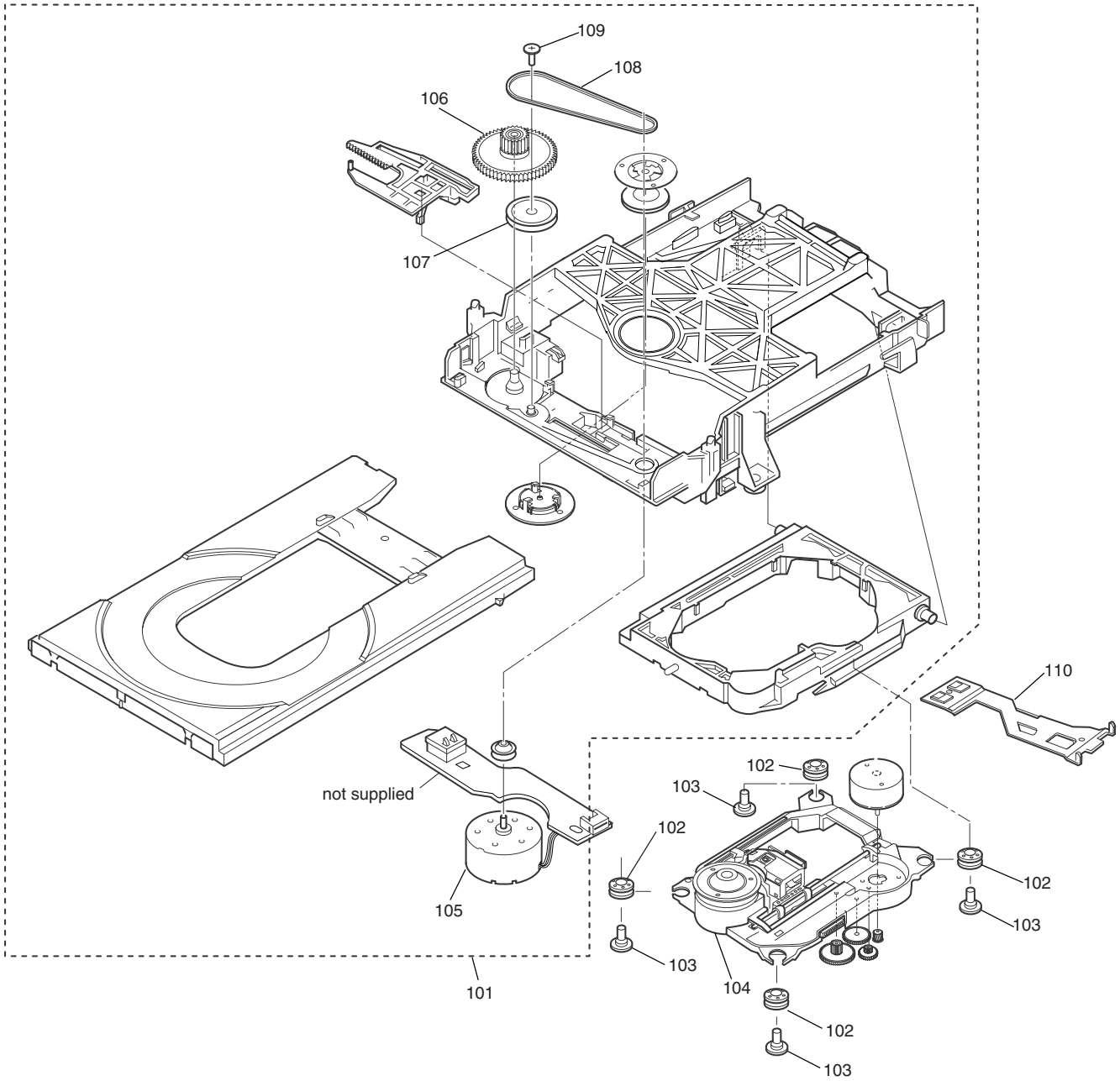


Ref. No.	Part No.	Description	Remark
1	A-1062-844-A	MV044 BOARD COMPLETE (NS575P: E,MX)	
1	A-1062-846-A	MV044 BOARD COMPLETE (NS575P: AUS)	
1	A-1062-848-A	MV044 BOARD COMPLETE (NS575P: EA,IR,ME2/NS585P: ME2)	
1	A-1062-858-A	MV044 BOARD COMPLETE (NS575P: ME5)	
1	A-6071-780-A	MV044 BOARD COMPLETE (NS501/NS575P: US, CND, PX)	
1	A-6071-799-A	MV044 BOARD COMPLETE (NS575P: KR,HK,SP,TW)	
1	A-6072-072-A	MV044 BOARD COMPLETE (NS507P:CH/NS525P:CH/NS575P:CH/NS585P:CH)	
1	A-6072-182-A	MV044 BOARD COMPLETE (NS575P: AR,BR)	
1	A-6072-189-A	MV044 BOARD COMPLETE (NS355: BR)	
2	A-6071-731-A	IF112 BOARD COMPLETE (NS575P: MX,E,AUS)	
⚠4	1-478-538-11	POWER BLOCK (SRV1487UC)	
⚠4	1-478-539-11	POWER BLOCK (SRV1501WW)	
5	X-3954-047-2	PANEL ASSY, FRONT	
5	X-3954-522-2	PANEL ASSY, FRONT	
5	X-3954-524-1/2	PANEL ASSY, FRONT	
5	X-3954-061-2	PANEL ASSY, FRONT	
5	X-3954-060-2	PANEL ASSY, FRONT	
5	X-3954-523-1/2	PANEL ASSY, FRONT	
5	X-3954-141-2	PANEL ASSY, FRONT	
6	3-066-225-11	SONY BADGE (5A)	SILVER
7	3-088-342-01	EMBLEM DVD	
8	3-088-330-02	COVER, TRAY	
8	3-088-330-13	COVER, TRAY	
8	3-088-330-22	COVER, TRAY	
9	3-077-331-21	+BV3 (3-CR)	
⚠11	1-828-450-11	CORD, POWER	
⚠11	1-828-454-11	CORD, POWER	
12	3-070-883-31	SCREW, TAPPING	BLACK
12	3-070-883-41	SCREW, TAPPING	SILVER
13	3-088-344-02	CASE, UPPER	BLACK
13	3-088-344-12	CASE, UPPER	SILVER
13	3-088-344-22	CASE, UPPER	
13	3-000-110-12	CASE, UPPER	
14	3-077-331-11	+BV3 (3 CR)	
15	1-478-545-11	REMOTE COMMANDER (RMT-D165A)	
15	1-478-545-31	REMOTE COMMANDER (RMT-D165P)	
15	1-478-545-41	REMOTE COMMANDER (RMT-D166P)	
16	3-071-119-1	LID, BATTERY CASE	
16	3-071-119-3	LID, BATTERY CASE	
17	3-077-331-11	+BV3 (3 CR)	
19	3-080-900-01	DUST, COVER	
20	3-088-489-01	INSULATOR, PS	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

8-1-2. MECHANISM DECK ASSEMBLY

ns : not supplied



Ref. No.	Part No.	Description	Remark
101	A-6071-197-A	LOADING ASSY (J)	
102	3-085-021-01	INSULATOR	
103	3-067-344-01	INSULATOR SCREW	
⚠104	8-820-237-06	KHM-310AAA/C2RP	
105	1-763-967-11	MOTOR, DC	
106	3-085-015-01	DRIVING GEAR	
107	3-085-016-01	PULLEY GEAR	
108	3-085-019-01	BELT	
109	4-974-711-11	SCREW (2x5)(P TYIGHT), (+)PTTWH	
110	3-085-013-01	FC COVER	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

8-2. ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Not all of the parts for POWER BLOCK (HS12S2U) are listed.
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- Abbreviation
  CA2 : Canada model
  PX3 : PX model
  MX2 : Mexico model
  E32 : Latin model
  BR4 : Brazil model
  HK2 : Hong Kong model
  SP6 : GA model
  TW1 : Taiwan model
  KR2 : Korea model
  EA4 : Saudi Arabia model
  ME2 : Middle East model
  ME5 : India model
  AU2 : Australia model
  CH : China model
  AR2 : Argentina model
  U2 : US model
  IR2 : Iran model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
	A-6071-731-A	IF112 (AU2) BOARD,COMPLETE (NS575P: MX,E,AUS)	
		**********	
		<CAPACITOR>	
C401	1-163-021-91	CAP, CERAMIC 10000PF B 10.00% 50V 0.01U (2012) (NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/NS585P:ME2)	
C403	1-163-021-91	CAP, CERAMIC 10000PF B 10.00% 50V 0.01U (2012) (NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/NS585P:ME2)	
C404	1-163-021-91	CAP, CERAMIC 10000PF B 10.00% 50V 0.01U (2012) (NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/NS585P:ME2)	
C405	1-163-021-91	CAP, CERAMIC 10000PF B 10.00% 50V 0.01U (2012) (NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/NS585P:ME2)	
C406	1-163-009-91	CAP,CHIP CERAMIC 1000PF B 10.00% 50V 0.001U (2012) (NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/NS585P:ME2)	
C407	1-104-660-91	CAP, ELECT 47UF 20.00% 16V 47U	
C408	1-163-021-91	CAP, CERAMIC 10000PF B 10.00% 50V 0.01U (2012) (NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/NS585P:ME2)	
C409	1-104-666-91	CAP, ELECT 220UF 20.00% 25V 220U	
C410	1-130-481-91	CAP, PE TEREPHTHALATE 0.0068UF 5.00% 50V 0.0068U	
C411	1-115-339-91	CAP, CERAMIC 0.1UF B 10.00% 50V 0.1U (2012)	
C412	1-126-965-91	CAP, ELECT 22UF 20.00% 50V 22U	
C413	1-115-339-91	CAP, CERAMIC 0.1UF B 10.00% 50V 0.1U (2012)	
		<CONNECTOR>	
CN401	1-568-953-11	PIN, CONNECTOR 4P	
CN402	1-818-275-11	CONNECTOR, BOARD TO BOARD 13P	
		<DIODE>	
D401	8-719-077-08	DIODE SLR-332DCT32 (NS507P:CN6/NS525P:CN6/NS575P:CA2/PX3/MX2/E32/AU2/ME2/EA4/SP6/TW1/HK2/KR2/ME5/BR4/CH) (NS585P:CN6/ME2)	
D402	8-719-041-97	DIODE MA113-(TX)	
D403	8-719-041-97	DIODE MA113-(TX)	
D404	8-719-041-97	DIODE MA113-(TX)	
D405	8-719-041-97	DIODE MA113-(TX)	
D406	8-719-421-83	DIODE MA8043-M(TX)	
		<TERMINAL>	
ET401	1-780-111-11	EARTH TERMINAL	
ET402	1-780-111-11	EARTH TERMINAL	
ET403	1-694-895-21	TERMINAL (ON BOARD CONTACT) (NS575P:CA2/PX3)	
		<IC>	
IC404	6-804-087-01	IC TMP86CK74AFG-5C00(M)	
IC406	6-705-738-01	IC RPM7240-H13	
IC408	6-704-114-01	IC S-80828CNUA-B8NT2G	
		<JUMPER RESISTOR>	
JR401	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR402	1-216-295-91	CONDUCTOR, CHIP (2012) 0	

Ref. No.	Part No.	Description	Remark
JR404	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR405	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR406	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR407	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR408	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR409	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR411	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR412	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR413	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JR414	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JS403	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
JS404	7-611-005-04	WIRE, TIN PLATING (NS-355:BR4)	
		<INDUCTOR>	
L401	1-456-709-11	COIL, CHOKE 82UH %-3.3	
		<FLUORESCENT>	
ND401	1-518-980-11	VACUUM FLUORESCENT DISPLAY	
		<TRANSISTOR>	
Q401	8-729-056-46	TRANSISTOR 2SC5053T100Q	
Q402	8-729-056-46	TRANSISTOR 2SC5053T100Q	
		<RESISTOR>	
R401	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R402	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R403	1-216-025-91	RES, CHIP 100 (2012) 1/10W 5%	
R404	1-216-025-91	RES, CHIP 100 (2012) 1/10W 5%	
R405	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R406	1-216-025-91	RES, CHIP 10K (2012) 1/10W 5%	
R407	1-216-025-91	RES, CHIP 10K (2012) 1/10W 5%	
R408	1-216-025-91	RES, CHIP 10K (2012) 1/10W 5%	
R409	1-216-025-91	RES, CHIP 10K (2012) 1/10W 5%	
R411	1-216-025-91	RES, CHIP 10K (2012) 1/10W 5%	
R412	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (NS355:BR4/NS585P:ME2)	
R413	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (NS355:BR4/NS585P:ME2)	
R414	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (NS585P:ME2)	
R415	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (EXCEPT NS585P:ME2)	
R416	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R417	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R418	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R419	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R420	1-216-027-91	RES, CHIP 120 (2012) 1/10W 5%	
R421	1-216-013-91	RES, CHIP 33 (2012) 1/10W 5%	
R422	1-216-097-91	RES, CHIP 100K (2012) 1/10W 5%	
R423	1-216-065-91	RES, CHIP 4.7K (2012) 1/10W 5%	
R424	1-216-017-91	RES, CHIP 47 (2012) 1/10W 5%	
R426	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R427	1-216-083-91	RES, CHIP 27K (2012) 1/10W 5%	
R429	1-216-071-91	RES, CHIP 8.2K (2012) 1/10W 5%	
R430	1-216-063-91	RES, CHIP 3.9K (2012) 1/10W 5%	
R431	1-216-059-91	RES, CHIP 2.7K (2012) 1/10W 5%	

Ref. No.	Part No.	Description	Remark
R432	1-216-019-91	RES, CHIP 56 (2012) 1/10W 5% (EXCEPT NS355:BR4)	
R433	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (EXCEPT NS575P:CA2/PX3)	
R434	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (EXCEPT NS575P:CA2/PX3)	
R435	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5%	
R436	1-216-081-91	RES, CHIP 22K (2012) 1/10W 5% (NS575P:ME5)	
R436	1-216-057-91	RES, CHIP 2.2K (2012) 1/10W 5% (NS575P:ME2/EA4/NS585P:ME2)	
R436	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (NS355:BR4/NS575P:CA2/PX3/MX2/E32/AU2/BR4)	
R436	1-216-089-91	RES, CHIP 47K (2012) 1/10W 5% (NS507P/NS525P/NS575P/NS585P:CH)	
R436	1-216-065-91	RES, CHIP 4.7K (2012) 1/10W 5% (NS575P:SP6/TW1/HK2/KR2)	
R437	1-216-073-91	RES, CHIP 10K (2012) 1/10W 5% (NS575P:CA2/PX3/SP6/TW1/HK2/KR2)	
R437	1-216-081-91	RES, CHIP 22K (2012) 1/10W (NS575P:ME5)	
R437	1-216-065-91	RES, CHIP 4.7K (2012) 1/10W 5% (NS507P/NS525P/NS575P/NS585P:CH)	
R437	1-216-057-91	RES, CHIP 2.2K (2012) 1/10W 5% (NS355:BR4/NS575P:MX2/E32/AU2/BR4)	
R440	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
R441	1-216-295-91	CONDUCTOR, CHIP (2012) 0	
		<SWITCH>	
S401	1-771-874-11	SWITCH, TACTILE	
S402	1-771-874-11	SWITCH, TACTILE	
S403	1-771-874-11	SWITCH, TACTILE	
S404	1-771-874-11	SWITCH, TACTILE	
S405	1-771-874-11	SWITCH, TACTILE	
S407	1-771-874-11	SWITCH, TACTILE	
		<TRANSFORMER>	
T401	1-443-199-11	DC-DC CONVERTER TRANSFORMER	
		<VIBRATOR>	
X401	1-781-472-21	VIBRATOR, CERAMIC	

A-1062-844-A	MV044 (MX2) BOARD,COMPLETE (NS575P: E,MX)
A-1062-846-A	MV044 (AU2) BOARD,COMPLETE (NS575P: AUS)
A-1062-848-A	MV044 (ME2) BOARD,COMPLETE (NS575P: EA,IR,ME2 / NS585P: ME2)
A-1062-858-A	MV044 (ME5) BOARD,COMPLETE (NS575P: ME5)
A-6071-780-A	MV044 (U2) BOARD,COMPLETE (NS501P/ NS575P: US,CND,PX)
A-6071-799-A	MV044 (SP6) BOARD, COMPLETE (NS575P: KR,HK,SP,TW)
A-6072-072-A	MV044(CN) BOARD,COMPLETE (NS507P:CH/NS525P:CH/NS575P:CH/NS585P:CH)
A-6072-189-A	MV044 (BR)BOARD,COMPLETE (NS355:BR)
A-6072-182-A	MV044 (PROGBR) BOARD,COMPLETE (NS575P: AR,BR)

MV-044

Ref. No.	Part No.	Description				Remark
		<CAPACITOR>				
C104	1-164-230-91	CAP,CERAMIC	220PF CH (1608)	5.00%	50V	
C106	1-164-230-91	CAP,CERAMIC	220PF CH (1608)	5.00%	50V	
C107	1-126-964-91	CAP, ELECT	10UF	20.00%	50V	
C109	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C110	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C111	1-164-677-91	CAP,CERAMIC	33000PF B (1608)	10.00%	16V	0.033U
C112	1-164-677-91	CAP,CERAMIC	33000PF B (1608)	10.00%	16V	0.033U
C113	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C114	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C115	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C116	1-162-964-91	CAP,CHIP CERAMIC	1000PF B (1608)	10.00%	50V	0.001U
C117	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C119	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C120	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C121	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C122	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C123	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C124	1-126-964-91	CAP, ELECT	10UF	20.00%	50V	
C125	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C126	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C132	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C138	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C139	1-126-964-91	CAP, ELECT	10UF	20.00%	50V	
C140	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C141	1-126-964-91	CAP, ELECT	10UF	20.00%	50V	
C142	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C143	1-126-964-91	CAP, ELECT	10UF	20.00%	50V	
C144	1-162-966-91	CAP, CERAMIC	2200PF B (1608) (NS355(BR4)/NS575P(AR2/BR4))	10.00%	50V	0.0022U
C145	1-162-966-91	CAP, CERAMIC	2200PF B (1608) (NS355(BR4)/NS575P(AR2/BR4))	10.00%	50V	0.0022U
C148	1-162-968-91	CAP,CHIP CERAMIC	4700PF B (1608)	10.00%	50V	0.0047U
C152	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	0.22U
C153	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C154	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C155	1-162-964-91	CAP,CHIP CERAMIC	1000PF B (1608)	10.00%	50V	0.001U
C156	1-162-964-91	CAP,CHIP CERAMIC	1000PF B	10.00%	50V	0.001U
C161	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	
C165	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C166	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C168	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C169	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C171	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C172	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C173	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C175	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C176	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C177	1-165-908-91	CAP, CERAMIC	1000000PF B (1608)	10%	10V	1U
C178	1-165-908-91	CAP, CERAMIC	1000000PF B (1608)	10%	10V	1U
C179	1-165-908-91	CAP, CERAMIC	1000000PF B (1608)	10%	10V	1U
C180	1-165-908-91	CAP, CERAMIC	1000000PF B (1608)	10%	10V	1U
C181	1-165-908-91	CAP, CERAMIC	1000000PF B (1608)	10%	10V	1U
C184	1-164-315-91	CAP, CERAMIC	470PF CH (1608)	5.00%	50V	
C185	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C186	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C189	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C190	1-164-245-91	CAP,CERAMIC	15000PF B (1608)	10.00%	25V	0.015U
C193	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C194	1-164-245-91	CAP,CERAMIC	15000PF B (1608)	10.00%	25V	0.015U
C197	1-164-677-91	CAP,CERAMIC	33000PF B (1608)	10.00%	16V	0.033U
C198	1-162-926-91	CAP, CERAMIC	82PF CH (1608)	5.00%	50V	
C199	1-164-392-91	CAP, CERAMIC	390PF CH (1608)	5.00%	50V	
C202	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	0.22U
C203	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C207	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	0.22U
C209	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C212	1-162-927-91	CAP, CERAMIC	100PF CH (1608)	5.00%	50V	
C213	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C214	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C215	1-165-908-91	CAP, CERAMIC	1000000PF B (1608)	10%	10V	1U
C216	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C218	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C219	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C220	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C222	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C223	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C224	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U

Ref. No.	Part No.	Description				Remark
C225	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C227	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C229	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C231	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C232	1-125-889-91	CAP, CHIP CERAMIC	2.2UF (2012)	10%	0V	
C235	1-162-964-91	CAP,CHIP CERAMIC	1000PF B (1608)	10.00%	50V	0.001U
C236	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C237	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C239	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C240	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C241	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C243	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C244	1-162-915-91	CAP, CERAMIC	10PF CH (NS575P(MX2/E32/U2/CA2/PX3/AR2/BR4)/NS355(BR4))	0.50PF	50V	
C244	1-162-916-91	CAP, CERAMIC	12PF CH (1608) (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2)/ NS585P(ME2))	5.00%	50V	
C245	1-162-916-91	CAP, CERAMIC	12PF CH (1608) (NS575P(MX2/E32/U2/CA2/PX3/AR2/BR4)/NS355(BR4))	5.00%	50V	
C245	1-162-915-91	CAP, CERAMIC	10PF CH (1608) (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2)/ NS585P(ME2))	0.50PF	50V	
C246	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C247	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C248	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C249	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C250	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C251	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C252	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C255	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C256	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C257	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C258	1-162-964-91	CAP,CHIP CERAMIC	1000PF B (1608)	10.00%	50V	0.001U
C259	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	
C260	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C262	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	
C263	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C264	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C265	1-126-964-91	CAP, ELECT	10UF	20.00%	50V	
C266	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	
C267	1-107-826-91	CAP, CHIP CERAMIC (EXCEPT NS355(BR4))	100000PF B	10.00%	16V	0.1U
C268	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C269	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C270	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C273	1-162-927-91	CAP, CERAMIC	100PF CH (1608)	5.00%	50V	
C276	1-125-889-91	CAP, CHIP CERAMIC	2.2UF (2012)	10%	10V	
C280	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C281	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C296	1-104-660-91	CAP, ELECT (NS575P(MX2/E32/U2/CA2/PX3))	47UF	20.00%	16V	
C297	1-162-970-91	CAP, CERAMIC (NS575P(MX2/E32/U2/CA2/PX3))	10000PF B (1608)	10.00%	25V	0.01U
C298	1-104-660-91	CAP, ELECT (NS575P(MX2/E32/U2/CA2/PX3))	47UF	20.00%	16V	
C299	1-162-970-91	CAP, CERAMIC (NS575P(MX2/E32/U2/CA2/PX3))	10000PF B (1608)	10.00%	25V	0.01U
C501	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C502	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C507	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C509	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C510	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C511	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C512	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C513	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C514	1-107-826-91	CAP, CHIP CERAMIC	100000PF B	10.00%	16V	0.1U
C601	1-164-739-91	CAP, CERAMIC	560PF CH (1608)	5.00%	50V	
C602	1-164-739-91	CAP, CERAMIC	560PF CH (1608)	5.00%	50V	
C603	1-164-218-91	CAP,CERAMIC	180PF CH (1608)	5.00%	50V	
C604	1-164-218-91	CAP,CERAMIC	180PF CH (1608)	5.00%	50V	
C605	1-164-218-91	CAP,CERAMIC	180PF CH (1608)	5.00%	50V	
C606	1-164-218-91	CAP,CERAMIC	180PF CH (1608)	5.00%	50V	
C607	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C608	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C609	1-126-960-91	CAP, ELECT	1.0UF	20.00%	50V	
C610	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C611	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C613	1-126-934-91	CAP, ELECT	220UF	20.00%	16V	
C615	1-164-230-91	CAP,CERAMIC	220PF CH (1608)	5.00%	50V	
C616	1-164-230-91	CAP,CERAMIC	220PF CH (1608)	5.00%	50V	
C622	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C625	1-162-970-91	CAP, CERAMIC (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2/CH/ AR2/BR4) (NS585P(ME2/CH)/NS507P(CH)/525P(CH))	10000PF B (1608)	10.00%	25V	0.01U
C627	1-104-660-91	CAP, ELECT (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2/CH/ AR2/BR4) (NS585P(ME2/CH)/NS507P(CH)/525P(CH))	47UF	20.00%	16V	

Ref. No.	Part No.	Description				Remark
C628	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C629	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C644	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C771	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C776	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C778	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C779	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	
C780	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C782	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C783	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
C784	1-104-660-91	CAP, ELECT	47UF	20.00%	16V	
C789	1-115-467-91	CAP, CHIP CERAMIC	0.22UF B (1608)	10.00%	10V	
C790	1-162-970-91	CAP, CERAMIC	10000PF B (1608)	10.00%	25V	0.01U
		<CONNECTOR>				
CN101	1-815-381-11	CONNECTOR, FPC/FFC 5P				
CN103	1-815-763-32	CONNECTOR, FFC/FPC 24P				
CN104	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P				
CN201	1-818-274-11	CONNECTOR, BOARD TO BOARD 13P				
CN204	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P				
CN205	1-568-953-11	PIN, CONNECTOR 4P				
CN771	1-568-937-11	PIN, CONNECTOR 10P				
		<DIODE>				
D508	8-719-071-15	DIODE HZM6.8ZWA1TL				
D509	8-719-071-15	DIODE HZM6.8ZWA1TL				
D601	8-719-914-47	DIODE DAN202K-T-146				
D602	8-719-914-45	DIODE DAP202K-T-146				
D604	8-719-988-61	DIODE 1SS355TE-17				
		<FERRITE>				
FB176	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB201	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB202	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB203	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB204	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB205	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB206	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB215	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB249	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB251	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB252	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB255	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB290	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB291	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB292	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB293	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB294	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB295	1-469-118-21	FERRITE, EMI (SMD)	(1608)	0UH	%-3.3	
FB525	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB555	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	

Ref. No.	Part No.	Description				Remark
FB1022	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB1023	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB1024	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB2036	1-469-670-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
FB2037	1-469-670-21	FERRITE, EMI (SMD) (NS575P(MX2/E32/U2/CA2/PX3))	(2012)	0UH	%-3.3	
FB2041	1-469-324-21	FERRITE, EMI (SMD)	(2012)	0UH	%-3.3	
		<FILTER>				
FL207	1-234-177-21	FILTER, CHIP EMI (NS575P(U2/CA2/CH)/NS507P(CH)/ NS255P(CH)/NS585P(CH))	0UH	%-3.3	0UH	
FL208	1-234-177-21	FILTER, CHIP EMI (NS575P(U2/CA2/CH)/NS507P(CH)/ NS255P(CH)/NS585P(CH))	0UH	%-3.3	0UH	
FL209	1-233-893-21	FILTER, CHIP EMI				
FL299	1-234-177-21	FILTER, CHIP EMI (NS575P(MX2/E32/U2/CA2/PX3))	0UH	%-3.3		
		<IC>				
IC101	6-704-524-01	IC FAN8036L				
IC102	6-704-471-01	IC CXD9780R				
IC151	6-704-470-01	IC TK11233CMCL-G				
IC201	6-704-472-01	IC CXD9781R				
IC202	6-704-261-01	IC TK11225CMCL-G				
IC204	6-804-726-01	IC MR27V1602F-1EGTN (NS355:BR/NS501P/NS575P:US,CND,PX,E,MX,AR,BR)				
IC204	6-804-728-01	IC MR27V1602F-1EJTN (NS575P:AUS,ME,EA,IR/NS585P:ME2)				
IC204	6-804-727-01	IC MR27V1602F-1EHTN (NS507P:CH/NS525P:CH/NS575P:KR,HK,SP,TW,CH/NS585P:CH)				
IC205	6-705-866-01	IC BR24L16FJ-WE2				
IC206	6-705-929-01	IC K4S641632H-UC75T				
IC207	6-705-515-01	IC AK4385VT-E2				
IC208	6-702-302-01	IC TK11133CSCL-G				
IC502	6-701-820-01	IC LA73053-TLM-E				
IC503	8-759-662-86	IC NJM79M05DL1A(TE2)				
IC601	8-759-249-16	IC NJM4558M-TE2				
IC603	8-759-711-59	IC NJM78L05UA-TE1				
IC605	6-600-009-01	IC TOTX179 (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2/CH/ AR2/BR4) (NS507P(CH)/NS585P(ME2/CH)/NS525P(CH))				
IC774	6-702-302-01	IC TK11133CSCL-G				
		<JACK>				
J501	1-828-495-11	JACK BLOCK, PIN (NS575P(MX2/E32/ME2/ME5)				

Ref. No.	Part No.	Description	Remark
J501	1-818-223-11	JACK BLOCK, PIN (NS355(BR4)/NS525P(CH)/NS507P(CH) (NS575P(AU2/ME2/EA4/IR2/U2/CA2/CH/AR2/BR4)) (NS585P(CH))	
JS002	1-216-295-71	CONDUCTOR, CHIP (2012) 0	
JS003	1-216-295-71	CONDUCTOR, CHIP (2012) 0	
		<WIRE CLIP>	
LP101	1-780-019-11	WIRE CLIP (NS525P(CH)/NS507P(CH) (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2/CH)) (NS585P(ME2/CH))	
LP601	1-780-019-11	WIRE CLIP (NS525P(CH)/NS507P(CH) (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2/CH) (NS585P(ME2/CH)	
LP701	1-780-019-11	WIRE CLIP	
LP702	1-780-019-11	WIRE CLIP (NS575P(MX2/E32/U2/CA2/PX3))	
		<IC LINK>	
⚠PS771	1-576-509-21	RINK, IC 1A	
⚠PS772	1-576-509-21	RINK, IC 1A	
		<TRANSISTOR>	
Q168	8-729-424-63	TRANSISTOR UN2212-TX	
Q170	6-550-008-01	TRANSISTOR UM6K1N-TN	
Q171	6-550-653-01	TRANSISTOR QST8TR	
Q504	8-729-024-89	TRANSISTOR MUN2213T1	
Q505	8-729-024-83	TRANSISTOR MUN2111T1	
Q601	8-729-010-10	TRANSISTOR MSB710-RT1	
Q602	8-729-024-89	TRANSISTOR MUN2213T1	
Q603	8-729-010-25	TRANSISTOR MSD601-RT1	
Q604	8-729-424-72	TRANSISTOR UN2217-QRS-TX	
Q605	8-729-010-05	TRANSISTOR MSB709-RT1	
Q607	6-550-137-01	TRANSISTOR2SD1938(F)-ST(TX).SO	
Q608	6-550-137-01	TRANSISTOR2SD1938(F)-ST(TX).SO	
Q611	8-729-010-25	TRANSISTOR MSD601-RT1	
Q616	8-729-010-05	TRANSISTOR MSB709-RT1	
Q772	8-729-048-28	TRANSISTOR 2SD1766-T100-QR	
Q773	8-729-424-11	TRANSISTOR UN2111-TX	
		<RESISTOR>	
R101	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R102	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R103	1-216-839-91	RES, CHIP 33K (1608) 1/10W 5%	
R104	1-216-839-91	RES, CHIP 33K (1608) 1/10W 5%	
R107	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R109	1-216-834-91	RES, CHIP 12K (1608) 1/10W 5%	
R110	1-216-822-91	RES, CHIP 1.2K (1608) 1/10W 5%	
R111	1-216-835-91	RES, CHIP 15K (1608) 1/10W 5%	
R112	1-216-826-91	RES, CHIP 2.7K (1608) 1/10W 5%	
R114	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R117	1-216-834-91	RES, CHIP 12K (1608) 1/10W 5%	
R119	1-216-841-91	RES, CHIP 47K (1608) 1/10W 5%	
R120	1-218-895-91	RES, CHIP 100K (1608) 1/10W 0.5%	
R121	1-218-895-91	RES, CHIP 100K (1608) 1/10W 0.5%	
R122	1-218-889-91	RES, CHIP 56K (1608) 1/10W 0.5%	

Ref. No.	Part No.	Description	Remark
R123	1-218-889-91	RES, CHIP 56K (1608) 1/10W 0.5%	
R124	1-216-831-91	RES, CHIP 6.8K (1608) 1/10W 5%	
R126	1-216-838-91	RES, CHIP 27K (1608) 1/10W 5%	
R127	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R128	1-216-839-91	RES, CHIP 33K (1608) 1/10W 5%	
R129	1-218-893-91	RES, CHIP 82K (1608) 1/10W 0.5%	
R130	1-218-877-91	RES, CHIP 18K (1608) 1/10W 0.5%	
R131	1-218-883-91	RES, CHIP 33K (1608) 1/10W 0.5%	
R132	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R133	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R134	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R136	1-218-875-91	RES, CHIP 15K (1608) 1/10W 0.5%	
R155	1-216-821-91	RES, CHIP 1.0K (1608) 1/10W 5%	
R156	1-216-821-91	RES, CHIP 1.0K (1608) 1/10W 5%	
R157	1-216-829-91	RES, CHIP 4.7K (1608) 1/10W 5%	
R158	1-216-829-91	RES, CHIP 4.7K (1608) 1/10W 5%	
R159	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R160	1-216-809-91	RES, CHIP 100 (1608) 1/10W 5%	
R172	1-216-845-91	RES, CHIP 100K (1608) 1/10W 5%	
R173	1-216-845-91	RES, CHIP 100K (1608) 1/10W 5%	
R175	1-216-809-91	RES, CHIP 100 (1608) 1/10W 5%	
R178	1-211-977-91	RES, CHIP 22 (1608) 1/10W 0.5%	
R179	1-216-801-91	RES, CHIP 22 (1608) 1/10W 5%	
R180	1-216-809-91	RES, CHIP 100 (1608) 1/10W 5%	
R181	1-216-821-91	RES, CHIP 1.0K (1608) 1/10W 5%	
R182	1-216-841-91	RES, CHIP 47K (1608) 1/10W 5%	
R183	1-211-977-91	RES, CHIP 22 (1608) 1/10W 0.5%	
R184	1-211-977-91	RES, CHIP 22 (1608) 1/10W 0.5%	
R185	1-216-857-91	RES, CHIP 1.0M (1608) 1/10W 5%	
R186	1-216-841-91	RES, CHIP 47K (1608) 1/10W 5%	
R187	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R188	1-216-801-91	RES, CHIP 22 (1608) 1/10W 5%	
R189	1-216-801-91	RES, CHIP 22 (1608) 1/10W 5%	
R190	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R191	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R192	1-216-841-91	RES, CHIP 47K (1608) 1/10W 5%	
R194	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R195	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R197	1-216-829-91	RES, CHIP 4.7K (1608) 1/10W 5%	
R198	1-216-821-91	RES, CHIP 1.0K (1608) 1/10W 5%	
R199	1-216-835-91	RES, CHIP 15K (1608) 1/10W 5%	
R201	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R208	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R213	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R216	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R220	1-216-832-91	RES, CHIP 8.2K (1608) 1/10W 5%	
R221	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R222	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R223	1-216-833-91	RES, CHIP 10K (1608) 1/10W 5%	
R224	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R225	1-216-821-91	RES, CHIP 1.0K (1608) 1/10W 5%	
R226	1-216-821-91	RES, CHIP 1.0K (1608) 1/10W 5%	
R227	1-216-845-91	RES, CHIP 100K (1608) 1/10W 5%	
R229	1-216-864-91	CONDUCTOR, CHIP (1608) 0	
R244	1-216-836-91	RES, CHIP 18K (1608) 1/10W 5%	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
R247	1-216-809-91	RES, CHIP	100 (1608)	1/10W	5%	
R248	1-216-845-91	RES, CHIP	100K (1608)	1/10W	5%	
R253	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R258	1-216-809-91	RES, CHIP	100 (1608)	1/10W	5%	
R260	1-216-801-91	RES, CHIP	22 (1608)	1/10W	5%	
R261	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R263	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R264	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R265	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R266	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R267	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R268	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R272	1-469-836-21	INDUCTOR, FERRITE BEAD (NS575P(MX2/E32/U2/CA2/PX3))	0UH	%-3.3		
R272	1-216-864-91	CONDUCTOR, CHIP (NS575P(AU2/ME2/EA4/IR2/ME5/ SP6/TW1/HK2/KR2/CH/AR2/BR4)) (NS585P(ME2/CH)/NS355(BR4)/ NS525P(CH)/NS507P(CH))	(1608)	0		
R276	1-218-841-91	RES, CHIP	560 (1608)	1/10W	0.5%	
R279	1-216-809-91	RES, CHIP	100 (1608)	1/10W	5%	
R280	1-216-826-91	RES, CHIP	2.7K (1608)	1/10W	5%	
R284	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R285	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R286	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R287	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R288	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R289	1-202-930-91	RES, CHIP	750K (1608)	1/10W	5%	
R298	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R521	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R527	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R528	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R529	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R530	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R532	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R533	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R534	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R535	1-211-990-91	RES, CHIP	75 (1608)	1/10W	0.5%	
R547	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R548	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R549	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R554	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R556	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R557	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R575	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R582	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R598	1-216-295-71	CONDUCTOR, CHIP	(2012)	0		
R601	1-208-798-91	RES, CHIP	4.7K (2012)	1/10W	0.5%	
R602	1-208-798-91	RES, CHIP	4.7K (2012)	1/10W	0.5%	
R603	1-208-798-91	RES, CHIP	4.7K (2012)	1/10W	0.5%	
R604	1-208-798-91	RES, CHIP	4.7K (2012)	1/10W	0.5%	
R605	1-208-800-91	RES, CHIP	5.6K (2012)	1/10W	0.5%	
R606	1-208-800-91	RES, CHIP	5.6K (2012)	1/10W	0.5%	
R607	1-216-825-91	RES, CHIP	2.2K (1608)	1/10W	5%	
R608	1-216-825-91	RES, CHIP	2.2K (1608)	1/10W	5%	
R609	1-216-825-91	RES, CHIP	2.2K (1608)	1/10W	5%	
R610	1-216-825-91	RES, CHIP	2.2K (1608)	1/10W	5%	
R611	1-208-800-91	RES, CHIP	5.6K (2012)	1/10W	0.5%	
R612	1-208-800-91	RES, CHIP	5.6K (2012)	1/10W	0.5%	
R613	1-216-829-91	RES, CHIP	4.7K (1608)	1/10W	5%	

Ref. No.	Part No.	Description				Remark
R616	1-216-830-91	RES, CHIP	5.6K (1608)	1/10W	5%	
R617	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R618	1-216-845-91	RES, CHIP	100K (1608)	1/10W	5%	
R619	1-216-849-91	RES, CHIP	220K (1608)	1/10W	5%	
R620	1-216-817-91	RES, CHIP	470 (1608)	1/10W	5%	
R621	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R622	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R624	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R625	1-216-841-91	RES, CHIP	47K (1608)	1/10W	5%	
R626	1-216-817-91	RES, CHIP	470 (1608)	1/10W	5%	
R627	1-216-817-91	RES, CHIP	470 (1608)	1/10W	5%	
R628	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R629	1-216-841-91	RES, CHIP	47K (1608)	1/10W	5%	
R630	1-216-841-91	RES, CHIP	47K (1608)	1/10W	5%	
R634	1-216-829-91	RES, CHIP	4.7K (1608)	1/10W	5%	
R635	1-216-829-91	RES, CHIP	4.7K (1608)	1/10W	5%	
R638	1-216-845-91	RES, CHIP	100K (1608)	1/10W	5%	
R640	1-216-817-91	RES, CHIP	470 (1608)	1/10W	5%	
R641	1-216-817-91	RES, CHIP	470 (1608)	1/10W	5%	
R642	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R643	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R649	1-216-813-91	RES, CHIP	220 (1608)	1/10W	5%	
R651	1-216-807-91	RES, CHIP	68 (1608)	1/10W	5%	
R652	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R653	1-216-821-91	RES, CHIP	1.0K (1608)	1/10W	5%	
R654	1-216-821-91	RES, CHIP	1.0K (1608)	1/10W	5%	
R656	1-216-821-91	RES, CHIP	1.0K (1608)	1/10W	5%	
R668	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R684	1-216-830-91	RES, CHIP	5.6K (1608)	1/10W	5%	
R775	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R776	1-216-827-91	RES, CHIP	3.3K (1608)	1/10W	5%	
R777	1-216-827-91	RES, CHIP	3.3K (1608)	1/10W	5%	
R787	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R1015	1-216-809-91	RES, CHIP	100 (1608)	1/10W	5%	
R1018	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R1021	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R1026	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R1027	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R1031	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R2019	1-216-809-91	RES, CHIP (EXCEPT NS355(BR4))	100 (1608)	1/10W	5%	
R2027	1-216-864-91	CONDUCTOR, CHIP	(1608)	0		
R2028	1-216-833-91	RES, CHIP	10K (1608)	1/10W	5%	
R2030	1-216-833-91	RES, CHIP (EXCEPT NS355(BR4))	10K (1608)	1/10W	5%	
R2031	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R2032	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R2033	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R2034	1-216-805-91	RES, CHIP	47 (1608)	1/10W	5%	
R2035	1-216-864-91	CONDUCTOR, CHIP	(1608)	0 (NS355(BR4))		
R2036	1-216-295-71	CONDUCTOR, CHIP	(2012)	0		
		<RES, NETWORK>				
RB204	1-234-371-21	RES, NETWORK 47X4	(1005)	1/32W	5%	47
RB205	1-234-371-21	RES, NETWORK 47X4	(1005)	1/32W	5%	47
RB206	1-234-371-21	RES, NETWORK 47X4	(1005)	1/32W	5%	47
		<SWITCH>				
S501	1-762-636-11	SWITCH, SLIDE (EXCEPT NS355(BR4)				

Ref. No.	Part No.	Description	Remark
		<CRYSTAL>	
X202	1-813-219-11	QUARTZ CRYSTAL UNIT (NS575P(MX2/E32/U2/CA2/PX3/AR2/BR4)/NS355(BR4))	
X202	1-813-218-21	VIBRATOR, CRYSTAL (NS575P(AU2/ME2/EA4/IR2/ME5/SP6/TW1/HK2/KR2/CH) (NS585P(ME2)/NS507P(CH)/NS525P(CH))	

⚠	1-478-538-11	POWER BLOCK (SRV1487UC) (U2/CA2/MX2) **********	
		<DIODE>	
D101	9-885-052-71	DOIDE	600V 1A
D102	9-885-052-71	DOIDE	600V 1A
D103	9-885-052-71	DOIDE	600V 1A
		<IC>	
IC101	9-885-052-72	IPD	
		<PHOTO COUPLER>	
⚠PC101	9-885-052-73	PHOTO COUPLER	
		<ALUMINUM ELECTRIC CAPACITOR>	
C107	9-885-052-76	ALUMINUM 82UF 200V ELECTRIC CAPACITOR	
		<FUSE>	
⚠F101	9-885-052-78	FUSE	125V 2A
		<CHIP FUSE>	
P311	9-885-052-80	CHIP FUSE	2A
P312	9-885-052-81	CHIP FUSE	2A

⚠	1-478-539-12	POWER BLOCK (SRV1501WW) (GA) **********	
		<DIODE>	
D101	9-885-052-71	DOIDE	600V 1A
D102	9-885-052-71	DOIDE	600V 1A
D103	9-885-052-71	DOIDE	600V 1A
		<IC>	
IC101	9-885-052-82	IPD	
		<PHOTO COUPLER>	
⚠PC101	9-885-052-73	PHOTO COUPLER	

Ref. No.	Part No.	Description	Remark
		<ALUMINUM ELECTRIC CAPACITOR>	
C107	9-885-052-77	ALUMINUM 120UF 400V ELECTRIC CAPACITOR	
		<FUSE>	
⚠P101	9-885-052-79	FUSE	250V 2A
		<CHIP FUSE>	
P311	9-885-052-80	CHIP FUSE	2A
P312	9-885-052-81	CHIP FUSE	2A

		ACCESSORIES **********
	1-478-545-11	REMOTE COMMANDER (RMT-D165A)
	1-478-545-31	REMOTE COMMANDER (RMT-D165P)
	1-478-545-41	REMOTE COMMANDER (RMT-D166P)
	1-828-450-11	CORD, POWER (DVP-NS575P/NS585P: E32/IR2/ME2/ME5/PX3/SP6)
	1-828-451-11	CORD, POWER (DVP-NS501P/NS575P: CA2/MX2/U2)
	1-828-452-11	CORD, POWER (DVP-NS575P: AU2)
	1-828-454-11	CORD, POWER (DVP-NS575P: EA4/HK2)
	1-828-455-11	CORD, POWER (DVP-NS575P/NS585P: E32/IR2/ME2/ME5/PX3/SP6)
	1-828-846-11	CORD, POWER (DVP-NS575P: EA4/HK2)
	1-828-456-11	CORD, POWER (DVP-NS501P/NS575P: CA2/MX2/U2)
	1-828-457-11	CORD, POWER (DVP-NS575P: AU2)
	1-828-845-11	CORD, POWER (DVP-NS575P: TW1)
	1-828-871-11	CORD, POWER (DVP-NS575P: KR2)
	2-050-982-11	INSTRUCTION MANUAL (DVP-NS501P: U2)
	3-088-491-12	INSTRUCTION MANUAL (DVP-NS575P: E32/MX2)
	3-088-492-12	INSTRUCTION MANUAL (DVP-NS501P/NS575P: CA2/PX3/U2)
	3-088-492-22	INSTRUCTION MANUAL (DVP-NS575P: CA2)
	3-088-493-12	INSTRUCTION MANUAL (DVP-NS575P: AU2)
	3-088-493-22	INSTRUCTION MANUAL (DVP-NS575P: HK2)
	3-088-493-32	INSTRUCTION MANUAL (DVP-NS575P: TW1)
	3-088-493-42	INSTRUCTION MANUAL (DVP-NS575P: KR1)
	3-088-493-52	INSTRUCTION MANUAL (DVP-NS575P: ME5)
	3-088-493-62	INSTRUCTION MANUAL (DVP-NS575P: HK2/SP6/ME5)
	3-088-495-12	INSTRUCTION MANUAL (DVP-NS575P/NS585P: EA4/IR2/ME2)
	3-088-495-22	INSTRUCTION MANUAL (DVP-NS575P/NS585P: EA4/ME2)
	3-088-495-32	INSTRUCTION MANUAL (DVP-NS575P/NS585P: IR2/ME2)

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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Sony Corporation
Home Storage Company

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